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PERSPECTIVES

ON LABOUR AND INCOME

MAR 6 1992

SPRING 1992

- YEAR-END REVIEW
- HARD AT WORK
- JUGGLING SCHOOL AND WORK
- LITERACY IN THE WORKPLACE
- SINGLE INDUSTRY TOWNS
- ABSENTEEISM



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The labour market: Year-end review

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Symbols

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Forum

From the editor

*Don't it always seem to go
That you don't know what you've got
Till it's gone
They paved paradise
And put up a parking lot.
— Joni Mitchell, "Big Yellow Taxi," 1969*

■ In this issue, we present our third year-end review. It is not just a round-up of 1991 statistics; it is an opportunity, perhaps the first in several months, to sit back and reflect on the larger significance of the year's events.

Actually, our experience with year-end reviews predates *Perspectives* by a number of years. Back in the spring of 1982, when the recession of 1981-82 had the Canadian economy by the throat, it seemed to us that many observers did not adequately appreciate the cumulative effect of the events that had transpired since the summer of 1981. Everyone had followed the monthly labour force figures, but few had linked them together to see their tremendous impact. Forging this link was the reason for preparing the first yearly review, published in the July 1982 issue of *Labour force information* as "Recent labour market developments." Subsequent year-end reviews, soon joined by mid-year reviews, appeared in *The labour force* for six years. Then, in 1988, we stopped: the review was seldom covered by the media, and did not generate any feedback from subscribers. Clearly, or so it seemed, it wasn't useful.

But "you don't know what you've got till it's gone." Apparently, this sense of loss applies to labour market analysis as well as to big yellow taxis. The volume of inquiries about the fate of the review revealed that it had a large, loyal, albeit silent, readership. The reaction showed that people do not consider it sufficient simply to know what is happening; they want to know why it is happening. And because of the statistical vehicles used to measure labour market conditions, understanding "why" is generally limited to semi-annual intervals.

The monthly Labour Force Survey (LFS) is the first news anyone receives about labour market conditions and the state of the economy in general. All periodic surveys, but especially monthlies, generate a strong incentive for analysts to focus on the most recent month-to-month change. The urge is understandable, yet there are drawbacks. The LFS is rare among surveys in that results are published only 13 days after the collection period. The timeliness of the data inevitably makes it a "stand alone," meaning that the results must be analysed in the absence of any other economic statistics for the same reference period: they simply do not exist. Consequently, the eagerly awaited press release may state that labour market conditions have changed, but it cannot assess what caused that change.

Furthermore, when a succession of small month-to-month changes is viewed in isolation, it can leave the impression that nothing significant is happening. While none of these shifts may be singularly remarkable, their cumulative effect is. For

instance, when the workforce numbers 12 million, the increase in employment generated by the addition of several thousand new workers in April is not intrinsically noteworthy; however, the creation of several thousand new jobs each month from April to October has a significant effect on labour market conditions.

The year-end review benefits from the well-known advantages of hindsight that month-to-month analysis cannot provide. With the inclusion of other data series covering the same reference period, the analyst can make causal associations and better understand how Canadian labour markets work. *The labour force* readers were right to protest the disappearance of their year-end review. In the long run, "why" something happened is more important than "what" happened, since it is the "why" that helps create positive economic policy. It is like the difference between seeking instant profits by paving paradise to put up a parking lot, and believing it is more profitable to understand the value of paradise before thinking about turning it into something else.

Ian Macredie
Editor-in-Chief



Letters

■ Dear Editor:

Thank you for sending a copy of the article by Graham Lowe, "Retirement attitudes, plans and behaviour." In fact, I had written Professor Lowe requesting a copy of his article from the newspaper account on which I was relying. Quite independently, I have just subscribed to *Perspectives on labour and income* which I find to be an excellent journal and I look forward to continuing to receive it.

Yours sincerely,

Victor W. Marshall, Ph.D.
Director
The Canadian Aging Research
Network
University of Toronto



We welcome your views on articles and other items that have appeared in *Perspectives on labour and income*. Additional insights on the data are also welcome, but to be considered for publication, communications should be factual and analytical. We encourage readers to inform us about their current research projects, new publications, data sources and upcoming events relating to labour and income.

Statistics Canada reserves the right to select and edit items for publication. Correspondence, in either official language, should be addressed to: Susan Crompton, Forum and What's new? Editor, *Perspectives on labour and income*, 5-A Jean Talon Building, Statistics Canada, Ottawa, K1A 0T6, or call (613) 951-0178.

Highlights

Here are some key findings from the articles in this issue of Perspectives on labour and income.

Hard at work

■ In 1990, almost 1 million full-time paid workers routinely worked 50 or more hours per week. These long weeks of paid work were more prevalent among men (14%) than women (6%).

■ Long workweeks are linked to multiple jobholding. While just 5% of full-time paid workers had more than one job in 1990, 23% of paid workers with long workweeks were multiple jobholders.

■ The proportion of long workweeks among paid workers with university degrees (19%) was double the rate recorded for workers with other levels of education (9%).

■ Long workweeks were most common in the fishing industry (59%) and in agriculture (37%); the lowest rates occurred in government services and in health and social services (both 5%).

■ Money may be an important incentive for working long hours. Some 42% of full-time full-year paid workers with long workweeks reported incomes of \$40,000 or more, compared with only 26% of all full-time full-year paid workers.

Juggling school and work

■ Despite an 18% decrease in the population of 15 to 24 year-olds, the number of full-time students increased by 3% between 1980 and 1990.

■ Over the decade, the proportion of students who were employed rose from 31% to 39%.

■ During the 1990 school year, almost half of secondary school students aged 17 to 19 combined work with full-time studies.

■ Nearly one-third of employed students worked less than 10 hours per week, while about one-half put in between 10 and 19 hours.

■ Student employment is concentrated in service (47%) and retail trade (35%) industries.

Literacy in the workplace

■ According to Statistics Canada's 1989 literacy skills survey, 69% of the employed labour force, and 63% of the general population possessed literacy skills that enabled them to deal with most everyday reading material.

■ More than 70% of workers in service industries, such as community services and public administration, have a reading level sufficient to meet most everyday demands; but only half the workers in agriculture and other primary industries exhibit a similar ability.

■ Workers with poor literacy skills tend to have significantly higher unemployment rates, lower levels of labour force participation and lower employment income than other workers.

■ Between 1981 and 1989, two-thirds of net employment growth was in the managerial and professional occupation group, which has the lowest proportion of persons with poor literacy skills.

Are single industry towns diversifying? A look at fishing, mining and wood-based communities

■ This study examines labour force and industry changes that have taken place in 172 single industry resource-based towns, specifically those dependent on fishing, mining and wood products.

■ In 63% of the 38 fishing communities studied, both the total labour force and the labour force in fishing either remained stable or grew over the 1981 to 1986 period, and dependency may have increased on this single sector.

■ Two-thirds of the 54 mining communities had a smaller total labour force in 1986 than in 1981. In 32 of these towns, the labour force in mining also dropped, and in 20 cases was below 30% of the total labour force.

■ Among the 18 mining communities that saw a stable or an increased labour force over the period, 9 had less than 30% of their labour force in mining in 1986 and have potentially diversified.

■ Of the 80 wood-based communities examined, 30% had a stable or slightly higher total labour force in 1986 than in 1981, but a smaller labour force in wood-based industries. In 17 of these towns, the labour force in the wood-based sector accounted for less than 30% of the total labour force. This may represent the most significant change towards diversification among the three types of communities studied.

Absences from work revisited

■ In an average week in 1990, 558,000 full-time paid workers (6.4%) were absent from work for personal reasons ("own illness or disability" and "personal or family responsibilities") for all or part of the week.

■ As a result of these absences, 9.4 days of work time were lost per full-time paid worker in 1990, up from 8.6 days in 1987. During that period, time lost per worker due to "illness or disability" increased by one-third of a day to reach 6.7 days. Time lost because of "personal or family responsibilities" rose by half a day to 2.7 days.

■ Between 1977 and 1990, absences due to "personal or family responsibilities" increased steadily with the growing number of dual-earner families with preschool age children. The burden of these responsibilities fell disproportionately on women since their time lost increased from 1.9 to 5.2 days per year while the days lost by men barely changed over the same period.

■ The propensity to miss work for personal reasons increases with age. In 1990, the proportion of workers reporting some absence ranged from a low of 5.0% among teenage workers to a high of 7.1% among those aged 55 and over. Health problems are the main reason for higher absence levels among older workers.

What's new?

■ An analytical report on jobs in the service industries examines work arrangements, promotions and career opportunities, and workers' satisfaction with their jobs.

■ A new annual publication shows that, between 1989 and 1990, employment in all three levels of government grew less than 2% but payrolls rose 9%, to \$42 billion.

■ The new edition of *Current Demographic Analysis* finds that marriage and family may be making a comeback in Canada.

■ Data on the reading skills of the adult population in small areas are now available using a new Census-based estimation methodology.

■ The Economic Council of Canada is producing a multitude of research reports on the impact of major socio-economic changes in Canada.

■ The *Labour market and income data guide* shows where to find and how to use data available from Statistics Canada.

■ Findings, first reported in "Unemployment - occupation makes a difference," are updated with the most recent data, showing that unemployment worsened for all occupations during 1991 but some still weathered the recession better than others.

■ Information about the extent of adult training, teaching methods, and the role of employers and unions in training has been collected by the 1992 Adult Education and Training Survey.

■ A nation-wide survey on how Canadians spend their time is being conducted this year in Cycle 7 of the General Social Survey.

■ The Survey of Job Opportunities examines why Canadians who say they want a job are not looking for one. □

Hard at work

Gary L. Cohen

Do you remember the debate about the "leisure society"? And do you remember the concern that everyone would have to find more and more activities to fill their time as the length of the workweek diminished? Well, for an increasing proportion of Canadians, the opposite has occurred, as the number of persons working 50 or more hours per week has risen dramatically over the last 15 years.

Estimates from the Labour Force Survey (LFS) show that, in 1975, 611,000 of 7.3 million full-time paid workers usually worked 50 or more hours per week; in 1990, there were 972,000 out of a workforce of 9.1 million.¹ That is, while full-time paid employment rose 25% during this 15-year interval, the number of paid workers with long workweeks climbed 59%.²

Who are these people with such long workweeks? Where do they work and what do they do? Are they well educated? And, is money the main reason why they work so many hours?

Who works 50 or more usual hours?

In 1990, about 11% of all full-time paid workers usually worked 50 or more hours per week. These long workweeks were much

more prevalent among men (14%) than women (6%). In fact, fully three-quarters of full-time paid workers with long workweeks were men (734,000 out of 972,000). For both men and women, there was relatively little difference in the incidence of long workweeks by age (Table 1).³

Table 1
Long workweeks by age and sex, 1990

	Paid workers with 50 or more usual hours	Incidence*
	'000	%
Both sexes	972	11
15-24	128	9
25-34	315	11
35-44	280	11
45-54	174	11
55-64	67	9
65 and over	8	15
Men	734	14
15-24	95	12
25-34	239	15
35-44	211	15
45-54	129	14
55-64	54	11
65 and over	7	19
Women	237	6
15-24	33	5
25-34	76	6
35-44	69	6
45-54	45	7
55-64	14	6
65 and over	--	--

Source: Labour Force Survey

* Paid workers with long workweeks as a proportion of all full-time paid workers.

Gary L. Cohen is with the Labour and Household Surveys Analysis Division. He can be reached at (613) 951-4623.

Definitions and limitations

This study looks at those persons who usually work 50 or more hours per week. In the Labour Force Survey (LFS), the term "usual hours" refers to the number of hours usually (regularly) worked at *all* jobs in a typical week. Usual hours are used primarily to distinguish between full-time workers (mainly those persons having usual hours of 30 or more per week) and part-time workers.

Usual hours worked may not be the same as scheduled, actual or even paid hours worked. For example, someone who has a scheduled workweek of 35 hours, but who customarily works an additional 5 hours per week (whether paid or unpaid, at the work site or at home) would report 40 usual hours. This same person would still report 40 usual hours even if he or she had actually worked only 30 hours in any specific week (for example, as a result of illness or vacation).

This article focuses on full-time paid workers. The growing incidence of part-time work over the last 15 years would distort the long-term trend in long workweeks if "part-timers" were included in the analysis. (Between 1975 and 1990, the number of part-time paid workers rose 96%, while full-time paid employment increased just 25%.)

This study treats the self-employed as a separate group (see *Long workweeks among the self-employed*). This is necessary because the motives for long workweeks may be quite different for the self-employed than for paid workers, and because, not surprisingly, the incidence of long workweeks is much higher among the self-employed than it is for other workers. In addition, since the growth of self-employment has exceeded other employment growth over the last 15 years (73% compared with 32% for paid employment), including the self-employed in the main analysis would also bias the findings of the study.

Fifteen years earlier, in 1975, men made up more than 85% of 611,000 such workers. The overall incidence that year was just over 8% (11% for men and a little more than 3% for women).

Between 1975 and 1990, the number of male full-time paid workers rose 9% compared with 54% for women. During this period, the number of men with long workweeks increased 40% compared with a 178% jump for women. Thus, women not only entered the workforce in ever increasing numbers, but the proportion with long workweeks rose much more rapidly for them than for men.

Where do they work?

Long workweeks are to be found in every sector of the economy. But by far the highest 1990 incidence was in the fishing industry (59%), followed by agriculture (37%), the real estate operator and insurance agent industries (24%) and forestry (23%).⁴ The lowest rates were in government services and in health and social services (both 5%), closely followed by communication and other utilities and by manufacturing (both 7%) (Table 2).

This suggests that long workweeks are most likely to occur in industries where the working season can be severely affected by weather conditions, and particularly in those industries where the period of peak

Table 2
Long workweeks by industry, 1990

	Paid workers with 50 or more usual hours	Incidence*
	'000	%
All industries	972	11
Agriculture	37	37
Fishing and trapping	9	59
Logging and forestry	11	23
Mining	26	15
Manufacturing	127	7
Construction	77	15
Transportation and storage	76	18
Communication and other utilities	27	7
Wholesale trade	56	12
Retail trade	91	10
Finance and insurance	33	8
Real estate operators and insurance agents	39	24
Business services	51	11
Government services	40	5
Education services	110	16
Health and social services	44	5
Accommodation, food and beverage services	54	12
Other services	64	15

Source: Labour Force Survey

* Paid workers with long workweeks as a proportion of all full-time paid workers.

activity may be quite brief. That is, in these industries, workers know that they must work as many hours as they can for as long as is practicable, because they may be "rained out" the following week. (The higher incidence in the primary sector, where the majority of workers are males, also explains part of the overall difference in rates between men and women.)

Between 1975 and 1990, the incidence of long workweeks declined substantially in agriculture (from 47% to 37%), but rose in all other industries, with the largest relative gains in communication and other utilities, forestry and mining.

... and what do they do?

The occupational distribution of workers with long workweeks resembles the patterns shown by industry. The highest 1990 rate (68%) was in fishing occupations, the lowest (3%) in clerical occupations. Nearly 60% of employees in religion occupations worked 50 or more hours per week (Table 3).

Between 1975 and 1990, the incidence of long workweeks climbed considerably for teachers (from 14% to 20%) as well as for managers and administrators (from 11% to 17%).

Where do they live?

Since long workweeks are so closely associated with the primary sector, especially agriculture, it is not surprising that the incidence is highest in provinces where the primary sector is a major source of employment. In 1990, Saskatchewan, Alberta and Prince Edward Island reported the highest rates.

The incidence of long workweeks was considerably lower in Quebec (7%) than in any other province; rates for both men (10%) and women (4%) were also far below the national averages.

Table 3
Long workweeks by occupation, 1990

	Paid workers with 50 or more usual hours	Incidence*
	'000	%
All occupations	972	11
Managerial and administrative	231	17
Natural sciences, engineering and mathematics	31	8
Social sciences	26	14
Religion	17	57
Teaching	88	20
Medicine and health	27	6
Artistic, literary and recreational	15	13
Clerical	54	3
Sales	95	15
Service	74	8
Farming	36	31
Fishing and trapping	9	68
Forestry and logging	8	21
Mining	11	20
Processing	19	6
Machining	11	5
Product fabricating, assembling and repairing	47	5
Construction trades	64	12
Transport equipment operating	90	25
Material handling and other crafts	18	5

Source: Labour Force Survey

* Paid workers with long workweeks as a proportion of all full-time paid workers.

What about education?

On average, people who work 50 or more hours per week are better educated than other full-time paid workers. In 1990, only 15% of full-time paid workers had a university degree compared with 27% of paid workers with long workweeks. This reflects the fact that the incidence of long workweeks for workers with university degrees (19%) was double the rate recorded for workers with other levels of educational attainment.

The high incidence of long workweeks among university graduates is largely attributable to the rates for teachers and managers/administrators. These two occupation groups have above average incidences of long workweeks and both groups, but particularly teachers, have greater-than-average proportions of university graduates among their members.

Multiple jobholding and long workweeks

Long workweeks are linked to multiple jobholding. (A multiple jobholder is a person employed at two or more jobs simultaneously.) On average, there were 473,000 paid-worker multiple jobholders in Canada during 1990, that is, about 1 out of every 23 paid workers.⁵ While just 5% of full-time paid workers had more than one job, 23% of paid workers with long workweeks were multiple jobholders.

Some 51% of full-time paid workers who were multiple jobholders usually worked 50 or more hours per week. This was nearly six times greater than the incidence of long workweeks (9%) among single jobholders. The rate for persons holding two (or more) paid jobs was 46%, while 62% of those who were paid workers in their main job and self-employed in their second job worked 50 or more hours per week.

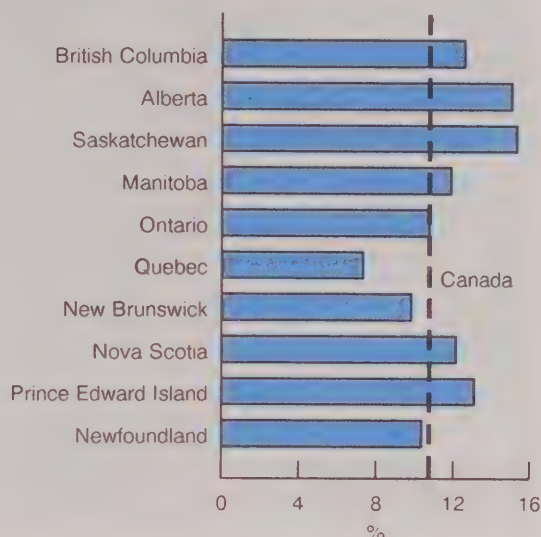
Among paid-worker multiple jobholders, the incidence of long workweeks for men (63%) was considerably higher than for women (36%). This compares with rates of 12% for men and 5% for women among single jobholders.⁶

What about money?

A comparison of income patterns for persons with long workweeks to those of full-time paid workers who work less than 50 hours

Long workweeks by province, 1990

The incidence of long workweeks is lowest in Quebec.



Source: Labour Force Survey

per week suggests that money may be an important incentive for some people with long workweeks.

On average, paid workers with long workweeks have higher incomes than full-time paid workers who work less than 50 hours per week. Some 26% of all full-time full-year paid workers (persons who work 49 or more weeks during the year) reported that they had incomes of \$40,000 or more in 1989, while 13% had incomes of less than \$15,000. In contrast, 42% of full-time full-year paid workers with long workweeks reported incomes of \$40,000 or more, and just 10% had incomes of less than \$15,000.⁷

But money may not be the only factor underlying the long workweek phenomenon. For example, consider the effects of single and multiple jobholding.

Long workweeks among the self-employed

The self-employed (persons who own and operate a business, farm or professional practice) numbered 1.8 million in 1990, accounting for 14% of all workers. More than 1.5 million worked full time and, of this latter group, some 734,000 or 49% reported that they usually worked 50 or more hours per week. The incidence of long workweeks was higher for self-employed men (53%) than for women (34%).

It is certainly not surprising that the incidence of long workweeks is so high among the self-employed. Most entrepreneurs own small businesses, and the time they commit to that business is likely one of their most important sources of capital.

In 1975, there were 1 million self-employed in Canada; 918,000 worked full time and 54% of these persons worked 50 or more hours per week. The rates of long workweeks that year were 58% for self-employed men and 32% for women.

In part, the overall decline between 1975 and 1990 in the incidence of long workweeks for the self-employed reflects the 5 percentage point drop in the rate for men. (This drop for men was due to the substantial dip in the incidence of long workweeks in

agriculture.) But the decline also reflects the very large increase in the proportion of self-employed women, as the incidence of long workweeks is lower among women. (During this 15-year period, the number of self-employed men rose by 50%, while the number of women jumped 173%.)

The 49% incidence for the self-employed did not vary much provincially, except in Newfoundland and Prince Edward Island, where it exceeded 60%. The highest rates by industry were in accommodation, food and beverage services (72%), fishing (70%), agriculture (63%) and transportation and storage (61%). In sharp contrast to paid workers, there was virtually no difference in the incidence of long workweeks by education among the self-employed.

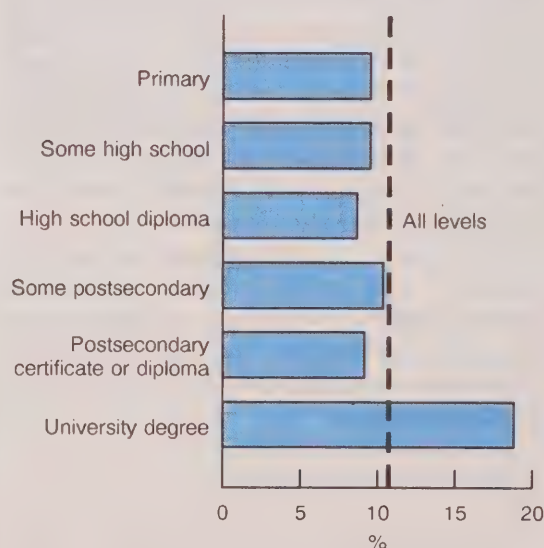
Also in contrast to paid workers, there was relatively little difference between the income distribution of self-employed persons usually working 50 or more hours per week, and those working full time but devoting less than 50 hours per week to their business. For both groups, about 25% of persons with one job, and about 20% of multiple jobholders, had incomes of \$40,000 or more in 1989. At the other end of the scale, about one-quarter of single jobholders, and one-third of multiple jobholders, had 1989 incomes of less than \$15,000.

For single jobholders, especially women, the incidence of "high" incomes (\$40,000 or more) was much greater for persons with long workweeks than for full-time workers who worked less than 50 hours per week. Similarly, the incidence of "low" incomes (less than \$15,000) was lower for persons with long workweeks (Table 4).

The situation for multiple jobholders was not so clear. Multiple jobholders, both men and women, were less likely to have high incomes and more likely to have low incomes than single jobholders. Among multiple jobholders, men with long workweeks were somewhat more likely to have high incomes than men who did not work 50 hours per week, but the difference was smaller than that observed for single jobholders. And for women, the incidence of high incomes was actually lower for those with long workweeks than for those working less than 50 hours per week. On the other hand, the incidence of low incomes was much lower among multiple jobholders (especially women) with long workweeks.

Long workweeks by education, 1990

Almost 1 in 5 university graduates usually work 50 or more hours per week.



Source: Labour Force Survey

Table 4
Long workweeks and income, 1989

	Proportion of full-year workers*			
	Men		Women	
	Less than \$15,000	\$40,000 or more	Less than \$15,000	\$40,000 or more
	%			
Paid workers				
All full-time workers	8	37	21	11
With less than 50 hours	8	36	21	10
With 50 or more hours	8	47	17	26
Single jobholders	8	37	21	11
With less than 50 hours	8	36	21	10
With 50 or more hours	7	50	15	33
Multiple jobholders**	12	31	30	8
With less than 50 hours	16	25	33	9
With 50 or more hours	10	35	24	7
Self-employed workers				
All full-time workers	22	31	49	13
With less than 50 hours	23	31	49	13
With 50 or more hours	22	31	48	12
Single jobholders	22	32	49	13
With less than 50 hours	23	31	50	13
With 50 or more hours	21	32	47	12
Multiple jobholders**	24	25	47	--
With less than 50 hours	20	32	40	--
With 50 or more hours	26	23	53	--

Source: Survey of Consumer Finances

* Includes only those persons who worked full-year in 1989 (49 or more weeks); other labour force characteristics (class of worker, full-time status, single and multiple jobholding, and usual hours worked) originate from the Labour Force Survey and refer to a respondent's employment status in April 1990.

** For multiple jobholders, class of worker status refers to the main job.

These patterns of high and low income suggest that income considerations may be a particularly important incentive for those persons who work 50 or more hours per week because they have more than one job.

But, on the other hand, these results suggest that money may not be the critical issue for those single jobholders who put in

long workweeks. Single jobholders with long workweeks may, for instance, work at jobs that are especially demanding in terms of hours, or they may simply enjoy working many hours. Further research would be required to explore the complex interrelationship between long workweeks and income.

Conclusion

The long workweek phenomenon has been growing. Over the last 15 years, Canadians who usually work 50 or more hours per week have increased rapidly, both in numbers and as a percentage of the total workforce. But the reasons for such labour market behaviour may vary considerably from person to person, from one labour market situation to another.

For workers in the primary sector, time and weather constraints may be the critical considerations; meanwhile, for

multiple jobholders, the need to acquire additional income may be the major factor that impels them to work so many hours.

For some people, including teachers and managers/administrators, long workweeks may be an expected part of the work environment, or they may be a requirement of the job. Alternatively, this phenomenon may reflect the fact that some people choose to put in a lot of hours at work.

And of course, for the growing legion of the self-employed, long workweeks are a natural aspect of entrepreneurial risk-taking. □

Notes

¹ Unless otherwise specified, all data shown are annual averages.

² A total of 1.7 million workers put in 50 or more hours per week on the job in 1990. In addition to 972,000 paid workers, there were 734,000 self-employed with long workweeks, plus some 12,000 unpaid family workers (persons who worked without pay in a business, farm or professional practice owned and operated by another family member living in the same dwelling).

³ The incidence of long workweeks refers to paid workers with long workweeks as a proportion of all full-time paid workers.

⁴ During peak periods of activity, the incidence of long workweeks in the primary sector, especially agriculture and fishing, would undoubtedly be substantially higher than the overall annual average.

⁵ For persons holding more than one job, the class of worker status is determined by the main job. In addition to the 473,000 paid-worker multiple jobholders, there were some 130,000 other multiple jobholders in Canada

in 1990; the vast majority of these persons were self-employed in their main job. The incidence of long workweeks was 75% for persons having two (or more) self-employment jobs, while 65% of those who were self-employed in their main job and paid workers in their second job worked 50 or more hours per week.

⁶ The incidence of long workweeks for multiple jobholders showed little variation by age (although the rate for men aged 15 to 24 was somewhat lower than for other groups). In contrast, among single jobholders, the rate increased substantially as age rose (especially for women); this reflects, in part, the fact that the incidence of self-employment rises rapidly as age increases.

⁷ Income data are derived from the Survey of Consumer Finances (SCF), a supplementary survey to the Labour Force Survey (LFS) that is conducted each April and collects data for the previous calendar year (that is, the April 1990 SCF collected 1989 income data). Labour force characteristics (class of worker, full-time status, single and multiple jobholding, and usual hours worked) originate from the LFS and refer to a respondent's employment status in April 1990.

Juggling school and work

Deborah Sunter

A rising proportion of students are juggling full-time studies and employment. In 1980, three out of ten full-time students aged 15 to 24 worked during the school year. In 1990, four of ten students were employed.

While student employment during the summer months enjoys a high level of social and institutional support, the benefits to students of work during the school year are less certain. There is concern that academic achievement may be diminished by work hours that compete for study time, especially when students work long hours at jobs that have little relevance to their school programs (Stern et al., December 1990). On the other hand, when school and work are successfully combined, students may gain valuable skills that better prepare them for the job market and adult life (Cohen).

This article examines the incidence of student employment during the school year (September through April), the amount of time spent on the job, and the kinds of jobs that students have. The study focuses on 15 to 24 year-olds in full-time attendance at a high school, college, or university.¹

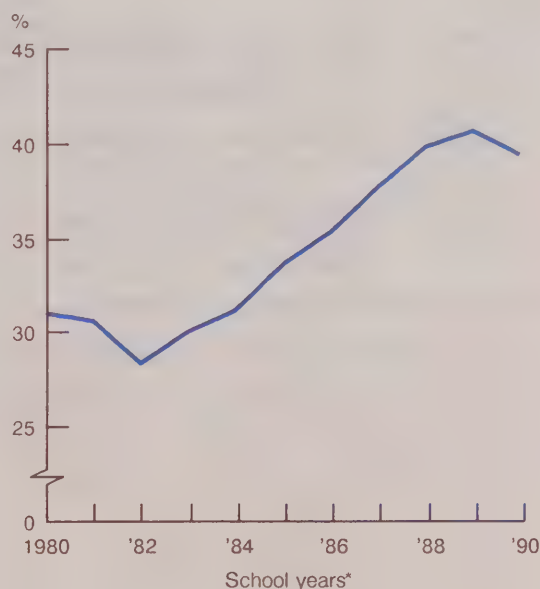
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School attendance has risen

The number of young people in Canada has fallen dramatically in recent years, reflecting shrinking birth rates that began in the 1960s. There were 1.8 million 15 to 19 year-olds in 1990, down almost half a million from 1980. During the same period, the number of

Employment rate of full-time students aged 15 to 24

More students are combining work and school.



Source: Labour Force Survey

* September to April averages

20 to 24 year-olds dropped 300,000 to 1.9 million. Overall, the youth population fell by 18% over the decade.

In contrast, full-time school attendance among 15 to 24 year-olds increased by 3%, from 1.79 million to 1.84 million, reflecting a pronounced rise in higher education. Growth in the number of students enrolled at universities (49%) and community colleges (13%) more than offset a 10% decline in secondary school enrolment (Table 1).²

Table 1
Full-time students aged 15 to 24 by educational institution, 1980 and 1990 school years*

	Full-time students				
	Popula- tion 15 to 24	Secon- dary	Com- munity college	Uni- ver- sity	Other**
'000					
1980					
Both sexes	4,554	1,223	279	290	2,762
Men	2,288	631	140	155	1,362
Women	2,266	592	138	135	1,401
1990					
Both sexes	3,749	1,099	315	431	1,904
Men	1,904	581	151	206	966
Women	1,845	519	164	225	937

Source: Labour Force Survey

* 1980 data are September 1980 to April 1981 averages; 1990 data are September 1990 to April 1991 averages.

** Includes full-time students in other types of educational institutions, all part-time students and all non-students.

More students are working

At the beginning of the decade, 31% of full-time students aged 15 to 24 were employed during the school year. The student employment rate fell to 28% at the end of the 1981-82 recession, but recovered quickly in 1983 and resumed an upward trend, reaching a peak of 41% in 1989. The rate slipped to 39% in 1990, as recessionary conditions again dominated the labour market and employment rates fell generally.

The incidence of student employment rose for men and women and for all age groups over the decade, but the largest increase, from 29% to 43%, was among women aged 20 to 24 (Table 2).

Full-time students increased their share of total employment in Canada from 5% in 1980 to 6% in 1990. However, despite rapid growth in the working student population, their share of part-time employment fell slightly (from 33% to 32%), as part-time jobs became more prevalent among older workers.

The steady growth in the employment rate of full-time students suggests that both supply and demand factors have been operating. On the supply side, an increasing number of students may feel a need for an income of their own. Rising education costs may require older students, in community colleges and universities, to seek jobs. On the other hand, employment increases among younger students may reflect their appetite for consumption; as the combination of work

Table 2
Full-time student employment, 1980 and 1990 school years*

	Employed		Employment rate	
	1980	1990	1980	1990
'000				
Both sexes	551	726	31	39
15-16 years	219	234	27	34
17-19 years	251	307	37	44
20-24 years	81	185	27	39
Men	286	355	31	38
15-16 years	115	117	28	34
17-19 years	127	151	37	43
20-24 years	44	87	26	36
Women	265	371	31	41
15-16 years	104	117	26	35
17-19 years	124	157	37	45
20-24 years	37	98	29	43

Source: Labour Force Survey

* 1980 data are September 1980 to April 1981 averages; 1990 data are September 1990 to April 1991 averages.

and school becomes the norm, the ability to afford the latest consumer items, from clothing to fast food, becomes a peer pressure issue. Finally, the declining youth population has likely reduced job competition.

On the demand side, the rising trend of student employment may reflect increased job creation. Over the last decade, the service sector has grown steadily, causing a greater demand for relatively unskilled part-time workers who are willing to work for low wages.³

Student employment rates vary

During the 1990 school year, employment rates among community college students (43%) were somewhat higher than those for secondary (39%) or university students (37%).

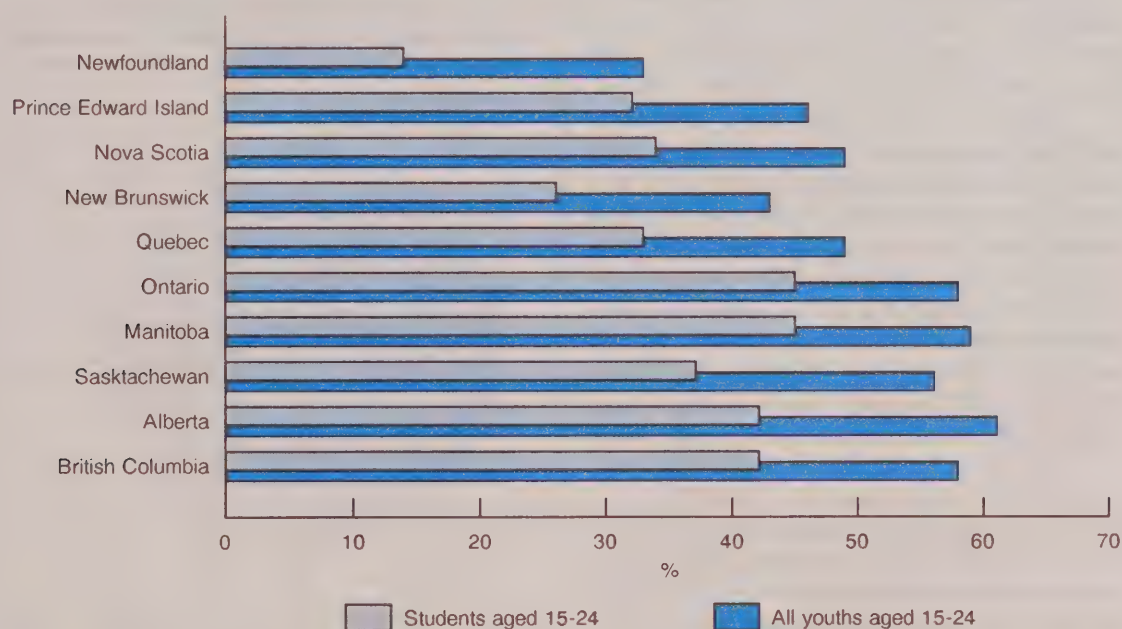
The incidence of employment increased with age among students in secondary schools and universities, but it declined slightly among older students in community colleges. In all age/school categories, a greater proportion of women held jobs than men. This difference was especially pronounced among university students (Table 3).

The highest employment rates of any age/school category were among 17 to 19 year-olds (both men and women) attending secondary school. Almost one-half of this group combined work with full-time studies.

There was considerable variation in the student employment rate by province. In Ontario and Manitoba, 45% of full-time students worked, a higher rate than in any other province. Employment rates were also

Youth employment rates, 1990 school year*

Student employment rates tend to reflect the overall youth labour market.



Source: Labour Force Survey

* September 1990 to April 1991 average

Table 3
Full-time student employment rates by educational institution, 1990 school year*

	Total	Secondary	Community college	University
	%			
Both sexes	39	39	43	37
15-16 years	34	35	--	--
17-19 years	44	48	45	32
20-24 years	39	--	42	39
Men	38	39	43	33
15-16 years	34	34	--	--
17-19 years	43	46	44	27
20-24 years	36	--	42	34
Women	41	40	43	41
15-16 years	35	35	--	--
17-19 years	45	50	45	35
20-24 years	43	--	42	44

Source: Labour Force Survey

* September 1990 to April 1991 averages

above average in Alberta and British Columbia. Newfoundland, with only 14% of its full-time students employed had, by far, the lowest rate.

Student employment rates tended to be high in provinces with relatively high employment rates among all 15 to 24 year-olds. However, the incidence of student employment by province was more variable than youth employment. For example, in Newfoundland, the student employment rate was only one-half of the rate for all 15 to 24 year-olds. In contrast, student rates in Ontario and Manitoba were about three-quarters of overall youth employment rates.

... and so do their hours

Full-time students spend an average of 55 hours a week attending classes, studying, and travelling to and from school.⁴ In 1990, employed students between the ages of 15 and 24 averaged an additional 13.8 hours per week at work, up slightly from 13.5 hours in 1980.

During the 1990 school year, nearly one-third of employed students put in less than 10 hours per week on the job, while almost one-half worked between 10 and 19 hours. About one in four worked 20 hours or more (and one-quarter of these worked at least 30 hours per week). This distribution has changed little since 1980.

The proportion of students working long hours is related to age. In 1990, only 15% of students aged 15 or 16 worked 20 or more hours per week, compared with 25% of 17 to 19 year-olds and 30% of 20 to 24 year-olds. Within all age/school categories, men were more likely to work long hours than women (Table 4).

The incidence of long workweeks also varied somewhat over the 1990 school year. The proportion of students working 20 or more hours per week was highest in

Table 4
Proportion of employed full-time students working 20 or more hours per week by educational institution, 1990 school year*

	Total	Secondary	Community college	University
	%			
Both sexes	23	20	28	27
15-16 years	15	15	--	--
17-19 years	25	26	26	20
20-24 years	30	--	30	29
Men	27	24	33	30
15-16 years	18	18	--	--
17-19 years	31	31	32	26
20-24 years	33	--	35	31
Women	19	16	23	24
15-16 years	13	13	--	--
17-19 years	19	20	21	16
20-24 years	27	--	26	27

Source: Labour Force Survey

* September 1990 to April 1991 averages

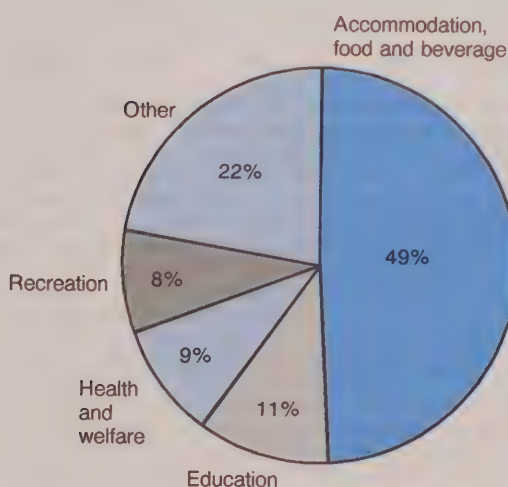
September and December (27%). But, even in the lowest months, February and April, one-fifth of all employed full-time students worked long hours.

Four out of five students work in services or retail trade

Student employment is highly concentrated in services and retail trade – industries characterized by above average proportions of part-time, evening, and weekend work. Some 47% of employed students worked in the service industry in 1990, compared with just 34% of all workers. Although one-half of all student service jobs were in the accommodation, food and beverage industry, this industry accounted for only one-sixth of total employment in services. More than

Student employment in the service industry, 1990 school year*

Half of all student service jobs are in the accommodation, food and beverage industry.

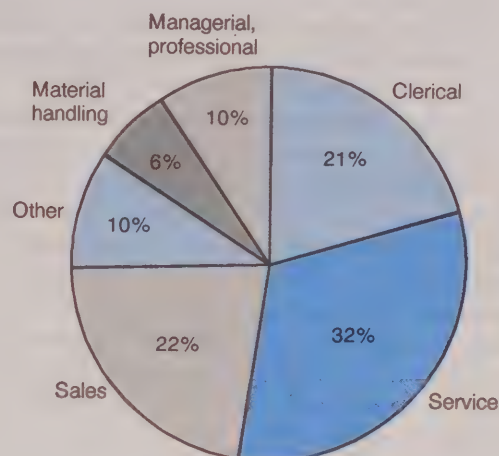


Source: Labour Force Survey

* September 1990 to April 1991 averages

Student employment by occupation, 1990 school year*

Most students work in service, sales or clerical jobs.



Source: Labour Force Survey

* September 1990 to April 1991 averages

35% of employed students worked in retail trade, compared with only 18% of all workers.

Student employment was also concentrated in three occupation groups: service (32%), sales (22%), and clerical work (21%). Students were three times more likely to work in service occupations than the overall employed population, and twice as likely to work in sales occupations. Students were under-represented in managerial and professional occupations. In 1990, only 10% of employed students performed this type of work compared with 30% of all workers.

Clerical work, which includes cashiers in retail operations, was far more prevalent among women students (29%) than men (12%). In contrast, 12% of men students but just 3% of women worked in primary and processing occupations.

The incidence of managerial and professional positions among students increased with age: 4% among 15 and 16 year-olds, 7% among those aged 17 to 19, and 21% among 20 to 24 year-olds. The incidence of clerical work also increased with age, while the proportion employed in service occupations dropped. Sales work was most prevalent among students aged 17 to 19.

The incidence of long workweeks varied by occupation. Over one-half of students employed as managers put in 20 or more hours per week, compared with only about one-quarter of those working in professional, clerical, sales or service occupations. Long hours were also somewhat more prevalent (about 30%) among students working in primary occupations, construction trades and transport equipment operating occupations.

Conclusion

The trend to increased student employment has spurred a number of studies on the relationship between work and academic

achievement. Findings from these studies are somewhat contradictory (Stern et al., March 1990). On the positive side, there is general agreement that students who work while attending school more easily find employment after leaving school. They also tend to earn more than their non-working counterparts, at least in the initial stages of post-school employment.

These short-term gains, however, may be more than offset by longer-term costs. Some researchers have found no demonstrable negative effects of paid work on academic achievement. Others suggest that working students tend to get lower grades and are less likely to complete their academic program or go on to higher education, especially when they work long weekly hours at jobs that are unrelated to their studies. Thus, in the long term, working students may be less able to compete in the labour market than their non-working counterparts. □

Notes

¹ Data used in this article are from the Labour Force Survey. Each month, respondents to the survey are asked if they attend a school, college or university, and, if so, whether or not they are enrolled as full-time students. The definition of full-time enrolment varies across educational institutions, but generally, full-time students are taking at least 60% of a complete course load. Only those students aged 15 to 24 who were taking credit courses on a full-time basis at a secondary school, community college, or university were included in this study.

For the purposes of this article, the term "school year" refers to the months of September to April inclusive; school year averages were derived by averaging the monthly estimates for these eight months. For information on trends in student employment during the summer months, see Statistics Canada, January 1992.

² The number of secondary school students declined during the first half of the decade; since 1986, enrolment has gradually increased as students tend to stay in high school longer. Enrolment in community colleges has

shown the opposite pattern. The net increase over the decade reflects growth that occurred during the early eighties; since 1985, the number of students in community colleges has fallen. University enrolment grew steadily from 1980 to 1990, largely because of greater participation by women. During this period, the number of young women attending university full time increased at almost three times the rate for men.

Enrolment estimates presented in this study may vary somewhat from those collected directly from educational institutions and published by the Education, Culture and Tourism Division of Statistics Canada.

³ Young workers accounted for three-quarters of low-paying (minimum wage or less) part-time jobs in 1986. The highest incidence of low-paying work was in the accommodation, food and beverage industry (Akyeampong).

⁴ The estimate of "school-related" time use came from the General Social Survey, conducted by Statistics Canada in November and December 1986. The estimate of time spent in school and related activities refers to all full-time students over the age of 15.

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Perspectives on labour and income

The quarterly for labour market information

Literacy in the workplace

Karen Kelly, Gilles Montigny, Tim O'Neill and Andrew Sharpe

The following article is based on two chapters published in *Adult literacy in Canada: results of a national study*, recently released by Statistics Canada. "Reading skills of adult Canadians by selected characteristics" was written by Gilles Montigny and Karen Kelly. "Functional illiteracy: economic costs and labour market implications" was written by Tim O'Neill and Andrew Sharpe.¹

Globalization, computerization and automation are changing the workplace in ways not generally anticipated 10 or 15 years ago. Indeed, change is occurring so quickly that it is arguable whether anyone can successfully predict what "going to work" will be like by the end of the decade. However, we do know that some occupations and industries will grow rapidly, while others will decline equally rapidly. The ability of the labour force to adapt to constant flux is of paramount importance for the future prosperity of workers, industry and the Canadian economy.

This adaptability presumes that workers have the skills needed to obtain and apply new knowledge, but over one-third of

Canadian adults experience at least some difficulty with reading, writing and numeracy tasks common in everyday life. Many of these people work, and the impoverishment of their literacy skills doubtlessly imposes limitations on their employment opportunities. It also imposes costs on the organizations that employ them such as inefficiency, lower productivity and accidents.

The stakes and the stakeholders

The economic costs of inadequate workplace literacy affect individuals, firms, and society. Individuals suffer below-average incomes, above-average unemployment and reduced labour market mobility, both occupational and geographic. In addition, their diminished capacity for job training and retraining dooms them to fall further behind in the competition for gainful employment.²

Firms employing such workers are also affected. In a recent survey of Canadian businesses with 50 or more employees, 70% of the respondents believed that some disruptions in their operations were attributable to the inadequate literacy skills of their employees, including lost productivity, errors in inputs and processes, reduced product quality and problems in job reassignment (Deslauriers). One estimate of the annual cost to Canadian businesses from lost productivity due to poor literacy was \$4 billion.³ Even if this figure is not strictly

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Data source and definitions

The Survey of Literacy Skills Used in Daily Activities (LSUDA) was conducted in October 1989 using a sample of approximately 9,500 respondents aged 16 to 69, pre-selected from the monthly Labour Force Survey. The main test involved a series of tasks designed to assess an individual's capacity to deal with reading, writing and numeracy activities commonly encountered in daily life. For more information about the LSUDA methodology, as well as a review of its general findings, see Montigny and Jones.

Literacy skills

The LSUDA identified four levels of reading ability:

- Level 1: has difficulty dealing with any printed materials.
- Level 2: can use printed materials for limited purposes such as finding a familiar word in a simple text.
- Level 3: can use material that is simple, clearly presented and not too complex.
- Level 4: can meet most everyday reading demands.

Although literacy encompasses reading, writing and numeracy skills, reading and numeracy skills are so interdependent, and the reasons for literacy competence so closely linked to educational attainment, that reading skills alone are used as a proxy for general literacy.

Labour force status

Almost four in five adult Canadians, or 14 million, were in the labour force at some point during the 12 months preceding the LSUDA survey. The labour force comprises the:

- Employed: those who reported at least one week of work between November 1988 and October 1989.
- Unemployed: those who reported at least one week of unemployment; that is, they were without work, looking for work and available for work.

These categories are not mutually exclusive, meaning that it is possible that one person was both employed and unemployed at some time during the survey reference period, and so is counted in each of the two universes.

accurate, it indicates the magnitude of the literacy problem in the workplace.

Society at large suffers the effects of inadequate workplace literacy through lower productivity, higher prices arising from increased production costs, and higher levels of government-provided income assistance to those unemployed or under-employed because of deficient skills.

Workforce literacy skills exceed general population's

An estimated 63% of the general population possess literacy skills that enable them to deal with most everyday reading material (level 4), compared with 69% of the employed labour force (see *Data source and definitions*). That the reading skills of the labour force are higher is partly because most of the older population is not in the labour force.⁴ The reading skills of part-time and full-time workers do not differ significantly; in both cases, one in ten had

level 1 or 2 skills, while another two in ten had level 3 proficiency, which enabled them to deal with clearly written documents or simple texts (Table 1).

While the literacy profiles of full-time and part-time workers are almost identical, larger differences emerge when work intensity is considered. Some 70% of full-year workers possess level 4 literacy, but only 65% of part-year workers exhibit these skills.

Another dimension of work intensity that reveals disparities is the number of weeks of unemployment. Of the 14% of the adult population that was unemployed during the year, the majority (over 60%) were out of work for less than 26 weeks. Over two-thirds of those who were unemployed for this period operate at level 4 proficiency, compared with less than half of those with a longer period of unemployment. One in three of the long-term unemployed have level 3 skills and one in five possess level 1 or 2 skills.

Table 1
Reading skill levels of persons aged 16-69 by labour market activity, 1989*

	All levels	Level 1	Level 2	Level 3	Level 4
	'000			%	
Total**	17,705	5	10	22	63
Employed	14,094	3	7	21	69
Full time	11,532	3	7	21	69
Part time	2,563	--	8	22	69
Full year	11,002	3	7	20	70
Part year	3,048	--	9	23	65
Unemployed	2,490	4	9	27	60
26 weeks or more	969	8	12	33	47
Less than 26 weeks	1,522	--	8	23	67

Source: Survey of Literacy Skills Used in Daily Activities

* Excludes persons who reported having no skills in either of Canada's official languages.

** See "Data source and definitions" for definitions of labour force terminology.

Literacy lowest in primary industries and related occupations

The literacy requirements of jobs vary over time as technologies, production processes and organizational structures of industries evolve. As such, literacy skills are indicative of specific working conditions, and allow workers to undertake training or to acquire new knowledge on the job. Work environment probably also plays an important role in the evolution of workers' literacy skills. In industries where most communication is in written form, workers are likely to have high reading skill profiles, first because such an industry would select new employees based on the literacy abilities of job applicants, and second because the demands of the job contribute to the retention of those skills. In industries that do not rely heavily on written communication, the opposite is likely true, especially for workers in semi-skilled or unskilled occupations.

The proposition that the work environment tends to reinforce literacy skills is supported by observations of the reading abilities of workers in various

industries.⁵ In general, workers in service industries, which are heavily information-oriented, have higher literacy profiles. More than 70% of workers in industries such as community services and public administration have the level 4 skills sufficient to meet everyday demands (Table 2).

On the other hand, only half the workers in agriculture and other primary industries (forestry, mining, fishing and trapping) exhibit level 4 proficiency, and more than one in five have level 1 or 2 abilities. High percentages of workers with limited skills are also found in manufacturing, personal services and construction, although this phenomenon is explained in part by the large proportion of immigrant workers in these industries (Badets and McLaughlin).

A large percentage – over one-quarter – of the workforce in these same industries has level 3 skills. (The proportion is even higher in agriculture, at 31%.) Such figures must give rise to concern because these industries are experiencing profound and rapid change.

Many occupations are closely associated with specific industries, for example, farming with agriculture, health-related jobs with community services, and so on. Therefore, the literacy skills for these occupations should be similar to the profiles of the industries to which they are linked. Farming and other occupations in the primary sector, as well as product fabricating (that is, manufacturing jobs), do indeed show similar reading skill distributions: less than half the workers in these occupations are classified as proficient at level 4 (Table 3).

Labour market implications of poor literacy skills

Canadians lacking adequate literacy skills have always been at a disadvantage in the labour market. In the 1980s, however, their position deteriorated even further. Most industries and occupations which in the past

Self-perception of literacy skills

If people are to improve their literacy skills, they must first recognize that their skills are inadequate, otherwise nothing will be done. Unfortunately, the majority of limited readers (57% at level 1 and 82% at level 2) claim to be satisfied with their literacy skills. The fact that fewer than one in ten adults at level 3 are dissatisfied with their skills may be less cause for concern. (This is arguable because as the general level of literacy required rises, people who now have some difficulty reading unfamiliar material will fall even further behind.) Interestingly, a considerably larger proportion of immigrants than Canadian-born adults are dissatisfied with their skills.

Almost all workers (98%) describe their skills as adequate for their current job. Nevertheless, 7% of those currently working feel that their job opportunities are limited by their present literacy skills, and 21% of those looking for work believe they are handicapped by poor skills.

Of the approximately 1.2 million adults who believe that their skills are inadequate, only 9% are taking training to improve their performance, although a further 52% allow that they might enrol some time in the future. Enrolment in literacy programs has traditionally been low, and the results reported above suggest that motivating Canadians to register for them may continue to pose a challenge.

Table 2
Reading skill levels of persons aged 16-69 by industry, 1989*

	All levels	Levels 1 and 2	Level 3	Level 4
	'000		%	
All industries	15,315	11	21	67
Agriculture	487	21	31	48
Other primary industries	374	21	29	50
Manufacturing				
Durable goods	1,299	14	26	61
Non-durable goods	1,304	18	27	56
Construction	745	15	27	58
Transportation, communication and other utilities	1,090	8	19	73
Trade				
Wholesale	640	8	18	74
Retail	2,097	10	26	64
Finance, insurance and real estate	761	--	15	81
Service industries				
Community services	2,677	9	14	76
Business services and miscellaneous services	1,240	9	17	74
Personal services	1,437	17	26	57
Public administration	1,164	6	16	78

Source: Survey of Literacy Skills Used in Daily Activities, 1989

* Excludes persons who reported having no skills in either of Canada's official languages.

Table 3
Reading skill levels of persons aged 16-69 by occupation, 1989*

	All levels	Levels 1 and 2	Level 3	Level 4
	'000		%	
All occupations	15,315	11	21	67
Managerial and administrative	1,823	--	12	85
Natural sciences, engineering and social sciences	913	--	10	86
Teaching	693	--	--	92
Health	728	10	14	76
Clerical	2,584	4	20	75
Sales	1,481	7	24	69
Service	2,329	21	27	52
Farming and other primary	692	21	33	46
Processing and machining	967	18	30	52
Product fabricating	1,094	23	28	49
Construction	749	17	29	54
Other	1,263	13	22	65

Source: Survey of Literacy Skills Used in Daily Activities, 1989

* Excludes persons who reported having no skills in either of Canada's official languages.

had employed many poorly educated workers experienced little growth in employment, and in some cases, experienced significant declines. In addition, within those industries traditionally employing a high proportion of people with incomplete formal education, the occupation mix shifted to the detriment of those workers.

Reduced to fairly simple terms, the Survey of Literacy Skills Used in Daily Activities (LSUDA) identified two levels of literacy skills, which taken together affect one-third of the adult population in Canada: a limited ability to use printed material of any kind (levels 1 and 2), and the ability to use only non-complex materials (level 3). These difficulties have economic implications not only for the individuals concerned, but also for their employers and society at large. To track over time the labour market performance of those with inadequate literacy skills, time series data on literacy levels and labour market variables are needed, but the LSUDA results

are available only for 1989. However, since the survey revealed such a strong correlation between poor literacy skills and non-completion of high school – and especially non-completion of Grade 9 – educational attainment data from the Labour Force Survey will serve as a proxy for literacy skills in the analysis that follows.⁶

Labour market position deteriorating for less-educated workers

Workers with poor literacy skills tend to have significantly higher unemployment rates, lower levels of labour force participation and lower employment income than other workers. More importantly, the gap between these workers and the overall population grew in the 1980s, and it probably will continue to do so in the coming years.

In 1990, the unemployment rate for those with less than nine years of schooling was 12.5%, or just over 1.5 times the overall

rate of 8%. In 1981, it had been only 1.2 times greater. The 1980s thus saw a marked increase in the relative unemployment rate of adults without a Grade 9 education, especially among women and workers under 45.

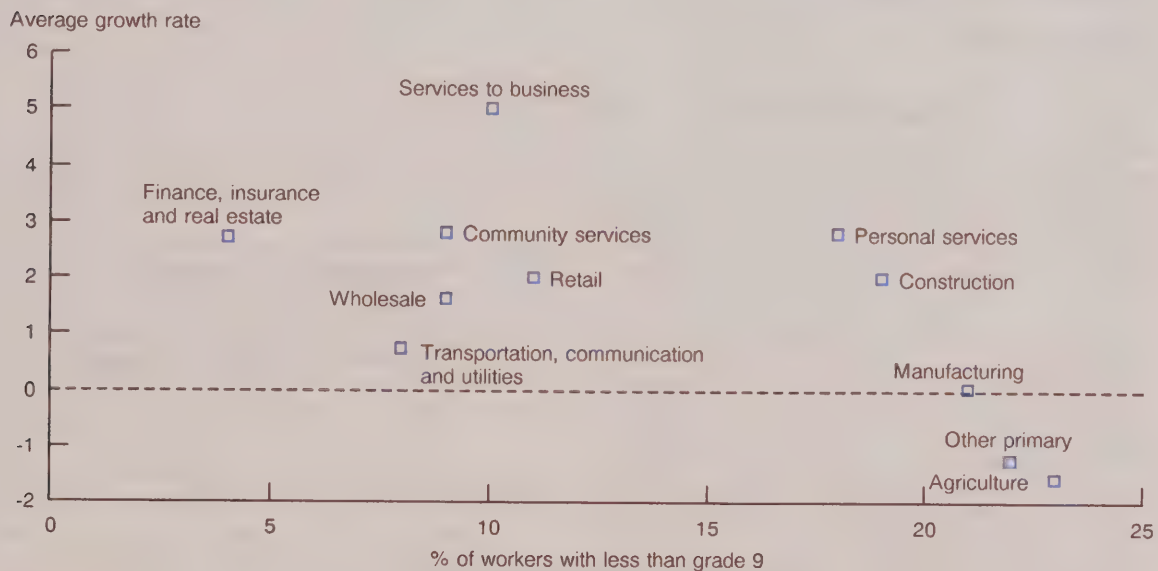
Not only is their unemployment rate higher, but they are also less likely to be in the labour force in the first place. In 1990, their participation rate was 36%, compared with 67% for the overall population. This marks a considerable fall in their position; in 1981, 44% of adults without Grade 9 schooling were in the labour force, compared with 65% of the overall population. This development further underlines the increasingly difficult labour market situation faced by those with limited literacy skills.

Among poorly educated working Canadians, employment incomes are well below average. Census data for 1985 show that men with less than a Grade 9 education earned 80% of the average male employment income, while women with similar educational attainment earned 75%. In 1980, the proportions were 84% and 79% respectively. Given their falling participation rate and rising unemployment rate, the employment income of these workers probably continued to deteriorate in the latter half of the 1980s.

Adults with an incomplete formal education are also much less likely to move in search of economic opportunities. In 1986, their inter-provincial migration rate was 0.2%, or one-quarter the overall rate of 0.8%. Because of their lack of literacy skills, they

Average annual employment growth rate from 1981 to 1989, by industry

Industries with better educated work forces had higher employment growth.



Source: Labour Force Survey

are less able to obtain information about jobs that are available in other provinces, and they might have less of the self-confidence needed to uproot themselves from familiar surroundings.

Changing labour market conditions displacing those without formal schooling

The deteriorating labour market situation of workers without Grade 9 qualifications reflects changes in underlying supply and demand conditions in the 1980s. Demand for the types of skills they provide has declined steeply, while demand for the types of skills provided by the better educated has increased. This structural shift in labour demand can be gauged by employment trends at the industry and occupation level.

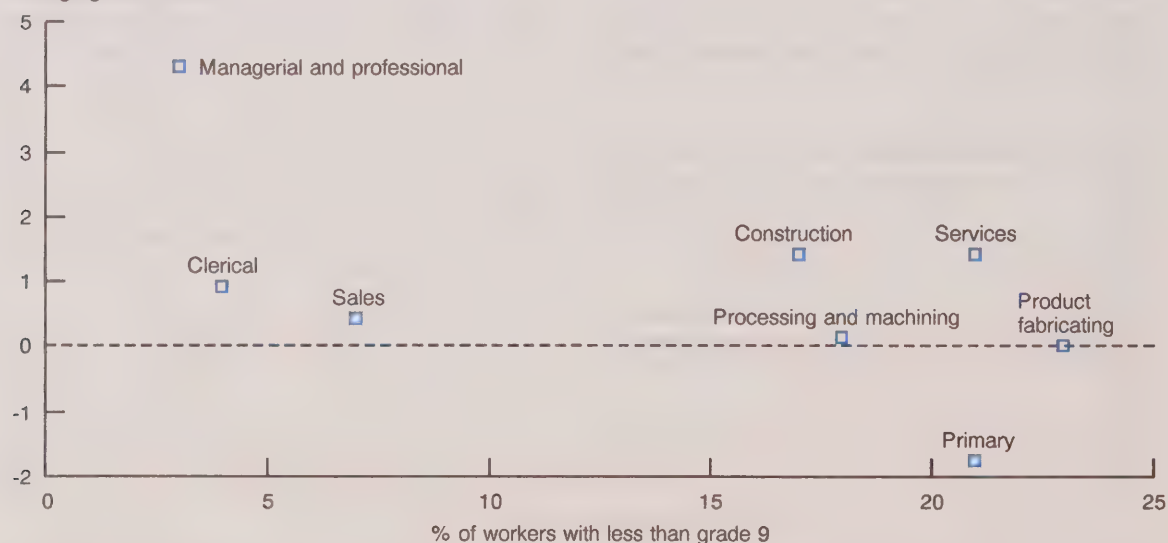
In the 1980s, industries such as finance, insurance and real estate, community services, and business services – which demand high-level reading skills from their workforces – recorded very strong employment growth. On the other hand, sectors such as manufacturing, agriculture and non-agricultural primary industries – with a high proportion of poorly educated workers – experienced stagnant or declining employment. There were certain exceptions to this general trend; for instance, employment growth was relatively strong in personal services and construction, two industries with above-average proportions of workers with less than a Grade 9 education.

The trends observed in employment growth by industry in the 1980s have also been evident for occupations. White-collar

Average annual employment growth rate from 1981 to 1989, by occupation

Occupations that traditionally require less education declined or grew marginally.

Average growth rate



Source: Labour Force Survey

occupations, such as managerial, professional, clerical and sales, experienced positive employment growth; meanwhile, blue-collar jobs like primary occupations, product fabricating, and processing and machining, which have a high proportion of workers with poor literacy skills, recorded little if any net employment growth. Indeed, two-thirds of net employment growth between 1981 and 1989 was in managerial and professional occupations, the category with the lowest proportion of persons with poor literacy skills. Again, there are two exceptions to this overall trend: employment growth was near average in service and construction occupations, and both have a high proportion of workers without Grade 9 schooling.

The decreased importance of employment in goods-producing industries and blue-collar occupations, and the increased importance of employment in service-producing industries and white-collar occupations, reflect structural shifts in productivity growth and changing skills

requirements. Indeed, almost all net job creation in the 1980s was in the service sector. Equally, technical change has resulted in an overall upgrading of the skill requirements for most blue-collar jobs. Workers are increasingly required to read manuals, perform numerical calculations, operate sophisticated equipment, and use information technologies.

Conclusion

Functional literacy in the workplace – the absence of difficulties in on-the-job application of reading and writing skills – is a moving target because of the nature of the skills required to perform effectively. As job skills become more sophisticated and technically complex, an objective that was appropriate 10 or 15 years ago may no longer be acceptable. This also implies that the costs of not increasing the proportion of the workforce with strong literacy skills will rise over time. Improving literacy skills is therefore a major challenge facing Canadian society in the 1990s. □

Notes

¹ A. Sharpe's views do not necessarily reflect those of the Board of Directors of the Canadian Labour Market and Productivity Centre.

² Drouin notes that the pace of technological change is drastically reducing the period in which an individual's workplace skills are usable. She contends that specialized skills become obsolete within 3 to 5 years of their attainment, compared with 7 to 14 years just a decade ago. Technological change, which is a challenge to most people in the workforce, can be disastrous for those who are severely handicapped in trying to upgrade and update their skills.

³ See Canadian Business Task Force on Literacy, 1988.

⁴ Literacy skills among older Canadians (aged 55 to 69) are markedly lower than the national average. Less than 40% read with full proficiency (level 4), compared with 63% of the general adult population.

⁵ Industry and occupation information was extracted from the April 1989 Labour Force Survey file, which was used to select the LSUDA sample. The information refers to the job of the respondent during the survey's reference week. For those not working that week, the information refers to the most recent job held in the previous five years.

⁶ Fully 78% of those with no school or only elementary school education do not have the reading skills necessary to meet most everyday reading demands (Levels 1, 2 and 3), compared with only 34% of Canadians with higher levels of educational attainment. Those with no schooling or only elementary education represent 29% of Canadians who have difficulty dealing with any printed materials (level 1), but only 9% of the Canadian population aged 16 to 69. This strong positive relationship between formal educational attainment and literacy levels is also found, although to a slightly lesser degree, for numeracy levels.

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Are single industry towns diversifying?

A look at fishing, mining and wood-based communities

Heather Clemenson

The early history of forestry and mineral resource exploitation in Canada is synonymous with the term "company town." Isolated, small and completely controlled by one company, many of these settlements were temporary while others became a permanent feature of the Canadian landscape. Today, few communities are the sole property of a single company. But, for many towns, a single industry continues to be the main employer. These communities are the subject of this study.

Though some single industry towns are dependent on tourism, government administration, defence, agriculture, or textile industries for employment, this study focuses only on three types of resource-based communities: fishing and fish processing, mining and refining, and wood-based activities (see *Single sector communities study group*). The objective is to examine some of the labour force and industry changes that have taken place in these towns since 1971, and to assess whether these settlements have become more dependent or more industrially diversified.

The 1981-82 recession had an adverse impact on employment in resource dependent towns across Canada, which has

refocused attention on the future of many of these communities. At issue is their long-term sustainability. If the economic base of a single industry town is in any way threatened, whether by market fluctuations (domestic or international), resource depletion, product substitution, technological change or any other factor, the future of the entire settlement can be at risk.

The labour force in the study communities is examined in three ways to evaluate changes in industrial structure and concentration. Although the focus of change covers 1981 and 1986 (the most recent period for which detailed data are available), it should be emphasized that all the study communities had at least 30% of their labour force in a single sector in 1971.

Definitions¹

This article looks at single sector communities identified in a study undertaken by the former Department of Regional and Economic Expansion (DREE, 1979). The communities selected had 30% or more of their labour force in a single industry or sector, according to the 1971 census.^{2,3}

A single industry community: is a population centre with 30% or more of its labour force assigned to a single standard industrial classification category (SIC).⁴

A single sector community: is economically dependent on one resource but carries out activities within an industry sector which combine a number of related SIC categories (for example, the wood-based sector includes logging, sawmills, and pulp and paper mills).

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Single sector communities study group

Type of community	Number of communities
All communities	172
Fishing and fish processing	38
SIC*: fishing 041; fishery services 045; fish products 102	
Mining and refining	54
SIC*: metal mines 051-059; mineral fuels 061, 064; non-metal mines 071-079; quarries and sand pits 083, 087; services incidental to mining 096-099; primary metal** 291, 294, 295; petroleum and coal products 365, 369	
Wood-based	80
SIC*: logging 031; forestry services 039; wood 251-259; furniture and fixture 261-268; paper and allied 271-274	

* Lists major industry groups and 3-digit 1970 SIC codes assigned to these groups. See note 4.

** Includes iron and steel mills, iron foundries, and smelting and refining.

The 38 fishing communities studied are all in the Atlantic provinces, the majority (26) in Newfoundland. The 54 mining communities and the 80 wood-based communities are more widely scattered, but most are in Quebec, Ontario and British Columbia. (See Appendix for a list of the study communities.) In 1971, most of the communities were relatively isolated, that is, few were close to alternative employment opportunities in large urban areas.

The communities selected for the study had a maximum population of 20,000 in 1976.⁵ However, the average size of the communities in the final study group was just under 3,400 that year. The median population sizes for all three types of communities lay between 1,000 and 2,000; close to 40% of all the communities were in this range.

Changes in industry concentration

A Herfindahl Index,⁶ which measures industrial concentration or economic specialization in a community, is used to compare

the relative concentration of the labour force across industries from 1981 to 1986. This "specialization" index shows, for each community or group of communities, the level of industrial concentration at a point in time. The closer the index is to 1.0 the more concentrated the industrial structure of the community. In this study a community is considered specialized if the index is equal to or greater than 0.3.

An index value was calculated for each community and for the three groups of communities, for 1981 and 1986, to see if there was any shift in the overall concentration of the labour force by industry.⁷

All three types of communities were still highly specialized industrially in 1981, and there was little, if any, change in their industrial concentration over the 1981 to 1986 period (Table 1). Small fishing communities with a labour force below 1,000 were, by far, the most specialized. This group was the only one to show a marginal increase

Table 1
Herfindahl Index by community type and size of labour force, 1981 and 1986*

	Labour force			
	All communities	Under 1,000	1,000-4,999	5,000-9,999
Communities				
Fishing				
1981	0.50	0.54	0.45	...
1986	0.50	0.55	0.43	...
Mining**				
1981	0.47	0.50	0.46	0.49
1986	0.44	0.41	0.43	0.46
Wood-based				
1981	0.45	0.45	0.45	0.44
1986	0.43	0.44	0.43	0.43

Sources: 1981 and 1986 Censuses of Canada

* Based on the size of the labour force in 1981.

** Fort McMurray is the only settlement in the study that had a labour force greater than 9,999 by 1986. It is included in the total only.

in industrial concentration over the five-year period; all other community groups experienced a marginal decrease in industrial concentration. The most notable change was in small mining communities where the index dropped from 0.50 to 0.41. It is not apparent from the index, however, if the difference is the result of a decrease in the primary industry labour force, or an increase in the labour force of the other industry groups.

Changes in the labour force by industry

Proportional changes in the labour force by industry over the 1981 to 1986 period are examined to determine specific areas of change. At the aggregate level for the three groups it is possible to identify only minor changes in the labour force distribution by industry. It is a decline in the primary

activity's labour force rather than significant changes elsewhere that seems to have brought about the apparent relative decrease in specialization among the communities, particularly among mining and wood-based towns (Table 2). The only industry groups that showed notable increases over the five-year period were public administration, and community, business and personal services. The expanding service sector in these communities mirrors the trend for Canada as a whole. However, the increase in public administration is not evident in the total economy. It may represent an increase in government services in some communities in response to the need for additional job creation. The proportion of the labour force in manufacturing (excluding those manufacturing industries included in the three primary sectors), remained the same or fell from 1981 to 1986.

Table 2
Distribution of labour force by industry, 1981 and 1986

Industry	Single sector communities							
	Canada		Fishing		Mining		Wood-based	
	1981	1986	1981	1986	1981	1986	1981	1986
All industries	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Fishing and fish processing	0.8	0.8	44.0	43.8	0.3	0.3	0.5	0.6
Mining and refining	3.1	2.5	0.8	0.5	38.7	31.4	1.5	2.0
Wood-based	3.8	3.5	0.7	0.7	3.5	4.3	33.4	29.6
Other primary*	3.9	3.8	0.4	0.3	0.3	0.5	0.8	1.2
Manufacturing**	13.3	12.2	3.6	2.9	2.8	2.8	2.7	2.6
Construction	6.1	5.6	3.7	3.3	4.9	4.1	4.7	3.6
Transportation, communication and other utilities	7.6	7.3	4.7	4.8	5.2	5.6	5.8	6.5
Trade	16.0	16.0	12.2	11.4	11.4	12.1	13.1	13.2
Finance, insurance and real estate	5.1	5.1	1.3	1.4	2.7	2.5	2.9	2.8
Community, business and personal services	27.7	30.2	17.7	18.0	21.3	25.2	23.8	25.8
Public administration	7.2	7.2	5.1	6.9	4.3	5.4	4.8	4.8
Other†	5.4	5.9	6.0	6.1	4.7	5.9	6.1	7.2

Sources: 1981 and 1986 Censuses of Canada

* Consists of agriculture, hunting and trapping.

** Excludes industries included in the three primary sectors.

† Includes persons that could not be coded into an industry group.

This appears to reinforce the premise that there has been relatively little change in the industrial composition of the labour force in these communities over time. But this observation is based on aggregate-level data only.

Another way of examining change is to see what proportion of the total labour force in each community has remained in fishing, mining or wood-based industries over time. For each community, the percentage of the labour force in the dominant industry was estimated for 1981 and 1986 (Table 3).

As of 1986, fishing communities appeared to be the most stable in terms of the proportion of the workforce remaining in the industry: of the 38 communities in the study, 34 still had 30% or more of their labour force in fishing in 1986, compared with 33 communities in 1981; only 4 or 5 communities saw their fishing labour force reduced to a proportion below 30%, and in no case had the proportion fallen below 15%.

Mining communities showed more change. In 1981, 42 of the 54 communities still had 30% or more of their labour force in mining, but by 1986 that number had dropped to 24. By 1986, less than half of these communities could be considered predominantly mining. In 22 towns, the proportion lay between 15% and 29%, while in 8 communities, less than 15% of the labour force remained in the mining sector.

In 1981, 52 of the 80 wood-based communities still had 30% or more of their labour force in the industry. By 1986, the comparable figure was 37 communities. Half of the communities, however, still had between 15% and 29% of their labour force in wood-based industries.

It is tempting to conclude that in communities where the resource sector labour force dependency dropped, industrial diversity increased. Certainly the proportional distribution of the labour force has changed, but from such a simple calculation, one cannot conclude that these communities have diversified their industrial base.⁸

Table 3
Distribution of study communities by the percentage of the labour force remaining in the dominant industry*

Communities	Number	Percent of labour force in dominant industry**		
		Under 15%	15%-29%	30% or more
Fishing				
1981	38	—	5	33
1986	38	—	4	34
Mining				
1981	54	1	11	42
1986	54	8	22	24
Wood-based				
1981	80	1	27	52
1986	80	3	40	37

Sources: 1981 and 1986 Censuses of Canada

* In 1971, all the study communities had 30% or more of their labour force in a single sector, referred to here as the dominant industry.

** Refers to the dominant industry only, for example, the percent remaining in the fishing industry in fishing communities.

The framework

Figure 1

Labour force change, 1981-1986

		Increased community labour force (CLF)			
Decreased single sector labour force (SSLF)	1	2		Increased single sector labour force (SSLF)	
	3	4			
		Decreased community labour force (CLF)			

Quadrant:

- 1 This quadrant represents an increase in the total community labour force and a decrease in the single sector labour force. Included in this group are communities that have diversified.
- 2 Quadrant 2 shows communities that have sustained an increase in both their total labour force and their single sector labour force. Depending on the relative sizes of the respective increases, some of these communities may have either diversified or increased their dependency on a single sector.
- 3 A decrease in both the total community labour force and the single sector labour force is shown in Quadrant 3. Depending on the relative sizes of the respective decreases, some of these communities may have increased their dependence on a single sector or they may have diversified. In either case, they have a declining total labour force.
- 4 Communities in Quadrant 4 have experienced a decrease in their total labour force but an increase in their single sector labour force. The relatively few communities in this group may have become more dependent on a single sector despite a reduction in their total labour force.

The most solid case for increased industrial diversity appears to be found among those communities where the total community labour force has increased, but the labour force in the major resource sector has decreased to less than 30% of the total (in Quadrant 1).

Changes in the community labour force

A proportional reduction in an industry's labour force relative to the total community labour force can occur for many reasons. For example, it may imply that new industry has come into a community, that other existing industries have expanded, or that the major industry has reduced its actual labour force.

A simple sorting procedure (see *The framework*) more clearly identifies the direction of change in a community's labour force by industry. It indicates whether the total industrial labour force in a community has increased or decreased, and whether the labour force in the major resource sector (fishing, mining or wood-based) has similarly increased or decreased. Each community can be placed in one of four categories based on the changes in its labour force from 1981 to 1986. The framework helps to establish which of the study communities have potentially diversified, or remained stable or grown, and which may be more vulnerable because of a declining industrial labour force or an increasing dependence on a single sector.⁹

Fishing communities

In 1977, Canada extended its fisheries jurisdiction from 12 to 200 miles. The outcome for the Atlantic fisheries was increased employment, investment, capacity and incomes. There was a major financial crisis in the industry caused by the 1981-82 recession, coupled with spiralling interest rates, high debt exposure, rising oil costs, and weak product prices. Major fish processing firms found themselves in serious financial difficulty but, largely with government assistance, the industry was able to refinance and restructure between 1983 and 1985 (DFO, 1989).

The number of fish plants in Atlantic Canada almost doubled from about 500 in 1977 to over 900 in 1988 (DFO, 1988).¹⁰ Employment in fish processing in Atlantic Canada increased rapidly after 1977, declined in 1983 with the rationalization of the major processing plants, but resumed expansion in the mid-1980s, to peak at the equivalent of about 31,000 full-time jobs in 1988 (APEC).

This employment growth appears to be reflected in the study data which indicates that in 32 of the 38 fishing communities (84%) the total community labour force either remained stable or increased in the 1981 to 1986 period (Fig. 2).

In 7 of these communities, the labour force in fishing declined slightly over the period, but in only 2 was the dependency on fishing less than 30% of the total labour force (Quadrant 1).

Of particular note is that 25 of the communities increased both their total

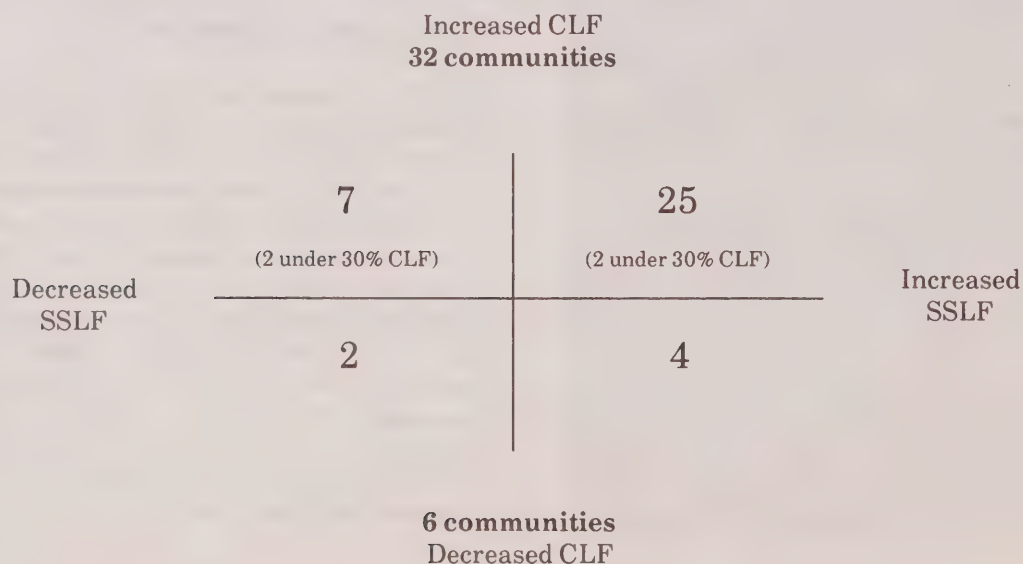
labour force and their labour force in fishing over the 1981 to 1986 period (Quadrant 2). In only two instances did the labour force in fishing fall below 30% in 1986. In all other communities the proportion was at least 30% and in the majority of cases it was higher in 1986 than in 1981. For most of these towns, therefore, single sector labour force dependency increased.

Only 6 of the fishing communities recorded a net decline in the total labour force over the period; sector dependency did not fall below 30% for any of these.

In the 38 study communities, there was little change in the labour force dependency on fishing between 1981 and 1986. The vast majority still had 30% or more of their labour force in the industry; moreover, the bulk of community labour force expansion over the 1981 to 1986 period appears to have occurred in the fishing industry.

Figure 2

Labour force change in 38 fishing communities, 1981-1986



Dependence on fishing continues to be a major concern in Atlantic Canada, where the industry still accounts for over 10% of all jobs, directly employing over 100,000 people in more than 1,300 communities (APEC). Since 1989, the industry has faced another cycle of low fish prices, declining fish stocks and overcapacity in both the harvesting and processing sectors. Reduced quotas in 1989 and 1990 forced a number of large fish processing plants to close or gear down, leaving thousands out of work.

In response to the crisis in the industry, the federal government announced, in May 1990, a five-year \$584 million Atlantic Fisheries Adjustment Program aimed at ensuring a viable fishery in the long term for Atlantic Canada. A full \$90 million (15%) of this aid is targeted for providing alternative employment opportunities and economic diversification within fisheries-dependent communities (Government of Canada, 1990).

Mining communities

From 1981 to 1986, the total community labour force remained stable or increased in just over a third (19) of the 54 mining communities (Fig. 3). While the mining labour force declined in 13 of these communities, only 8 saw the dependency on mining fall below 30% (Quadrant 1). In 6 communities, both the mining and the total labour force remained stable or increased; in 2 cases, however, mining no longer accounted for 30% or more of the total labour force by 1986 (Quadrant 2).

Those 10 communities which have seen an increase in their total labour force (Quadrants 1 and 2) but now have less than 30% of their labour force in mining have potentially diversified.

The predominant situation in the 54 mining communities, however, has been one of decline in the total labour force. Two-thirds of the mining communities had a smaller total labour force in 1986 than in 1981. In 31 of these communities (close to 60% of the study group), the labour force in mining also dropped, and in 19 cases was below 30% of the total labour force (Quadrant 3).

The 1981-82 recession had a devastating impact on employment in mining communities. "At the height of the recession in late 1982, close to half of the Canadian mining sector was shut down temporarily for periods varying from a few weeks to several months ... The recession also precipitated the permanent closure of the main employer in some communities, resulting in severe social readjustment and relocation for most of their residents and businesses" (EMR, 1985).

A number of communities have shifted their primary employment dependence to another resource base. They have moved from being predominantly mining communities to communities largely dependent on wood industries for employment (for example, Atikokan and Ear Falls in Ontario, and Fraser Lake and Granisle in British Columbia). In some cases there is now a dual resource dependency, with wood-based industries being the major employer.

Although the 1981-82 recession was a major cause of employment decline in some communities, other factors need to be considered. For example, technological development in the mining sector has also changed the demand for labour. Even though an industry remains economically important to a community, an increased substitution of capital for labour can reduce the number of employed workers and limit future employment growth.

Figure 3

Labour force change in 54 mining communities, 1981-1986

		Increased CLF 19 communities		
Decreased SSLF	13 (8 under 30% CLF)	6 (2 under 30% CLF)	Increased SSLF	
	31 (19 under 30% CLF)	4 (1 under 30% CLF)		
		35 communities Decreased CLF		

Mining will undoubtedly remain a boom and bust industry and there is much concern within the mining sector regarding the future planning and growth of communities. A number of arrangements have evolved, ranging from fly-in/fly-out sites with no permanent settlement, to fully planned centralized communities serving a number of mines and having a larger population base for service provision, and a more diversified employment structure.

Wood-based communities

Wood-based industries also suffered during the recession of the early 1980s. In the forestry industry, for example, employment fell from over 300,000 in 1980 to below 260,000 in 1982 (Statistics Canada, 1984).

Of the 80 wood-based communities in this study, over half had a stable or slightly higher total labour force in 1986 than in 1981 (Fig. 4). In 24 of these settlements, the

labour force in wood-based industries declined; in 17 cases it accounted for less than 30% of the total labour force (Quadrant 1). This development may represent the most significant change towards diversification among the three types of single industry communities examined in this study.

In a further 18 communities the labour force increased both in total and in the wood-based industries; but in 9 of these, the wood-based industries no longer accounted for at least 30% of the total labour force by 1986 (Quadrant 2).

In 38 communities, the total labour force fell during the 1981 to 1986 period. In 17 of these communities, the wood-based labour force accounted for less than 30% of the total labour force.

Increased capitalization and rationalization are responsible for some of the labour force changes in wood-based industries. The wood products industry in particular has undergone considerable restructuring in

Figure 4

Labour force change in 80 wood-based communities, 1981-1986

		Increased CLF 42 communities			
Decreased SSLF	24 (17 under 30% CLF)		18 (9 under 30% CLF)		Increased SSLF
	31 (16 under 30% CLF)		7 (1 under 30% CLF)		
		38 communities Decreased CLF			

order to remain competitive in the marketplace and to accommodate increasing environmental controls. In this process some communities have benefited while others have suffered.

In some wood-based communities, increased diversity has also resulted in a dual dependence on wood and mining. For example, the town of Marathon in Ontario, long associated with pulp and paper, is now likewise dependent on gold mining.

It has been stated that the forestry industry "has had to accept far more constraints than perhaps any other sector in the economy because of the multiple values attached to its raw material source" (Bull). Though many adjustments have already taken place, fluctuating world markets, GATT negotiations, the Free Trade Agreement and increasing environmental concerns provide this sector with a dynamic background for further adjustments and restructuring in the coming years.

Conclusion

This very preliminary look at 172 communities identified as single industry or single sector towns in 1971 appears to show slightly more change in the industrial composition of the labour force in mining and wood-based communities than in fishing communities. In fact, over the 1981 to 1986 period, some fishing communities increased their labour force dependency on a single resource. In all three sectors, those communities which experienced major growth or decline stand out clearly; for the remainder the changes are more subtle.

The recent recession has again brought hard times to many of these small resource-dependent communities. What lies in the future for them? There appears to be a growing concern for community sustainability – which in the long term implies some element of economic diversification. For many of these communities though,

diversification and alternative employment opportunities may be hampered by their small size and remoteness.

Planning for economic diversification continues through the work of local municipalities, the Canadian Association of Single Industry Towns (CASIT), the Community Futures Program (part of Employment and Immigration Canada's Canadian Jobs Strategy), and other government and organizational initiatives.

Many single industry communities are examining alternatives to continued dependence on one resource and are seeking new ways to ensure a long-term future. The success of these initiatives will be crucial to maintaining the economic viability of these towns. Data from the 1991 Census will provide important information to further examine trends in employment by industry in single sector communities. □

Notes

¹ There is an extensive literature on single industry towns which encompasses a great variety of definitions (Robson). The common characteristic generally recognised as describing a single industry town is the reliance on a single, dominant economic activity – but the method of dependence measurement for community identification and analysis varies from study to study. Early studies on the subject include the work of Walker, Robinson and Lucas. Walker describes single enterprise communities as follows: "the company (or other single authority) is the sole employer and owns and controls all the physical properties." This definition reflects the period during which Walker's study was undertaken, when "company towns" were the rule for resource-based settlements. Robinson defines new resource towns as typically one-industry communities, located beyond the continuously settled area of southern Canada. Implicit in his definition is a notion of isolation, or at least distance from major areas of settlement. Lucas uses a more quantifiable definition: "communities with a population of less than 30,000 in which at least 75% of the working population serves a single industry and its supporting services."

² This refers to the industry or sector in which an employed person 15 years and over was currently working at the time of the Census. In the case of an adult who was unemployed or not in the labour force at the time of the Census, the industry or sector assigned was the one related to the job of longest duration held during the 17 months preceding Census day.

³ The communities were selected from the DREE study which contained population figures and other data for each community for 1976. For this article, the community data were checked using 1971 Census data to see if 30% or more of their labour force was also in a single sector at that date. The 1976 Census did not contain industry data that would have permitted this type of verification.

⁴ The Standard Industrial Classification (SIC) is a coding system used to identify the economic sector in which an individual works (for example, manufacturing,

fishing, retail trade). The coding system, which is updated at regular intervals, contains over 300 basic "3-digit" categories which are rolled up into major groups and divisions. The data in this article are based on the 1970 SIC to permit comparison over time.

⁵ The standard geocoding system of the Census was used to operationally define community boundaries.

⁶ The Herfindahl Index is a measure of concentration. It was originally designed to measure the market shares of sales volume. In the present context it is used to measure the degree of economic specialization in a community. For each community, the index is calculated by taking the square root of the sum (across all industries) of the squares of the proportion of the labour force in each industry class. The maximum value for the index is 1.0, which represents the highest possible industrial concentration. In the former DREE study, communities with a score of less than 0.3 were not considered to be specialized.

$$HI_i = \sqrt{\sum_{j=1}^n (LF_{ij} / LF_i)^2}$$

where LF_{ij} = labour force in community i , industry j ($j = 1, 2, 3, \dots, n$)

LF_i = total labour force in community i

and $HI_i \leq 1$.

⁷ The calculation of the index was based on the following 12 industry groups: fishing; mining and refining; wood-based; other primary (includes agriculture, hunting and trapping); manufacturing; construction; transportation, communication and other utilities; trade; finance, insurance and real estate; community, business and personal services; public administration; and other (includes employment descriptions that could not be coded into an industry group).



PERSPECTIVES

ON LABOUR AND INCOME

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Spring 1992

The labour market: Year-end review

H I G H L I G H T S

- Employment in December 1991 was down 123,000 from a year earlier. While manufacturing employment led the decline in 1990, retail trade matched it in 1991 – the first year on record that a service sector industry suffered as large an employment loss as one of the major goods-producing industries.
- One reason for the weakness in employment was the emphasis firms put on raising productivity. Output per person employed rose during the 1990-91 recession, compared with declines in previous recessions.
- The overall unemployment rate in December rose by about a percentage point to 10.3% in 1991, compared with a 1.7 point increase from 1989 to 1990.
- Blue-collar occupations saw their unemployment rate climb to 15.2% at the end of 1991. The rate for white-collar occupations rose to 7.5%.
- While the total labour force participation rate dropped from 66.7% in 1990 to 65.8% in 1991, it fell by over two percentage points for both men and women aged 15 to 24. In 1991, only 75.5% of adult men (aged 25 and over) were in the labour force – down about one point from 1990.
- Labour force participation by women fell in 1991, the first drop on record. However, a lower participation rate of younger women accounted for this decline, as the rate for adult women was stable.
- Labour income fell steadily from an annual growth rate of 8% early in 1990 to a low 3.1% in May 1991. It rebounded slightly to reach 3.3% in October. Total hours of paid employment also fell over the same period.

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The labour market: Year-end review

Philip Cross

The labour market remained unsettled at the end of 1991 as the economy appeared to be in a difficult transition from recession to recovery. After a brief upturn in the spring, employment growth stalled in the second half of the year. By the end of the year, employment was only 0.2% above the low reached in February, while the unemployment rate remained above 10%.

These overall movements, however, masked considerable diversity by industry, occupation and region. While some service industries recovered fully from employment losses suffered during the depths of the recession, retail trade and manufacturing – the two industries hardest hit by the recession – continued to lose jobs. Partly because of the concentration of manufacturing in Ontario and Quebec, labour markets in central Canada remained very weak. On the other hand, growth resumed in Western Canada – notably British Columbia.

Job opportunities remained bright in most white-collar occupations, especially those requiring at least some postsecondary education, but blue-collar jobs needing fewer skills continued to be marginalized. A recurring theme in the year was the emphasis that employers placed on raising productivity and controlling labour costs.

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Unless otherwise noted, all data are seasonally adjusted estimates available as of January 10, 1992.

Employment

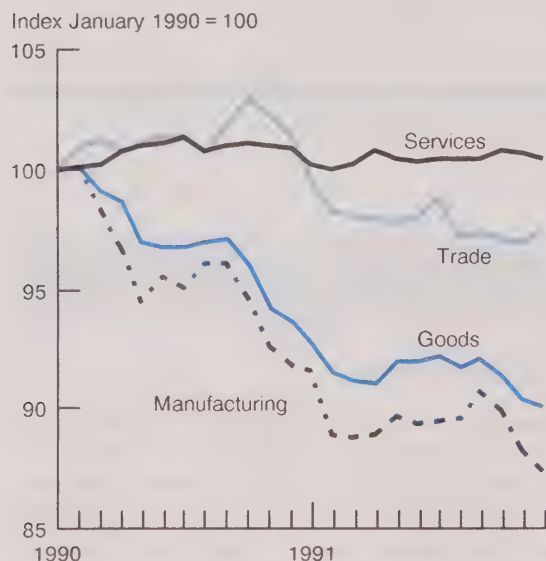
Employment grew marginally in 1991, after a third consecutive quarterly drop at the beginning of the year. The upturn was very modest, however, with virtually no growth in the second half of the year, leaving employment at year end about 1% (-123,000) below the level of a year earlier. Steady job losses in the goods-producing sector, coupled with a levelling off of employment in services, accounted for the weak trend.

Manufacturing continued to lose jobs at a rapid rate after having led the decline in 1990. Retail trade (-88,000), however, matched manufacturing (-91,000) for job losses in the past 12 months. This is the first time on record that any major industry group in the service sector has suffered as large a loss of jobs in a year as a goods-producing industry. Retrenchment in the retail industry reflects the protracted slump in consumer spending after the introduction of the GST shifted some of the tax burden, from investment and exports, to consumers. In addition, disposable incomes have been weakened by slow employment growth and higher direct taxes, while consumer confidence has been shaken by concerns over job security.

Employment in manufacturing fell steadily through the year, continuing a two-

Employment by industry

Manufacturing led the decline in goods, while trade held services in check.



Source: Labour Force Survey

year downward trend. Job losses were concentrated in Ontario and Quebec, reflecting weakness in industries concentrated in central Canada such as automobiles, furniture, capital goods, and paper. Conversely, manufacturing employment picked up slightly in British Columbia in the second half of the year, led by gains in the wood industry as lumber shipments recovered in response to an upturn in housing starts.

The natural resources sector was buffeted by steadily declining prices for most commodities during the year. Prices for a wide range of metal products were especially weak during the summer, and employment in metal mining fell more than 10%. Quebec and British Columbia were particularly affected. Oil and gas exploration and development also suffered from the effects of a plunge in crude oil prices following the end of the Gulf War. Agriculture was an

exception to the trend of weakness in the primary sector, posting its largest annual average employment increase in over a decade due to a bumper wheat crop in the Prairie provinces.

Construction lost over 40,000 jobs in 1991, with all of the drop occurring in the first half of the year. A sharp recovery in housing starts in Quebec and British Columbia led to an upturn in construction employment in these provinces over the summer. These gains were offset by a sharp drop in Ontario late in the year, apparently due to a cutback in non-residential construction projects.

Almost all of the slack in service employment originated in the retail industry, as most other service industries posted gains in employment over the past 12 months. In fact, three industries saw employment recover by year end to pre-recession levels (finance, insurance and real estate; public administration; and community, business and personal services).

Community, business and personal services was the only industry to expand employment in the first half of the year. Despite a slowdown in the second half, this industry still employed almost 100,000 more people in December than a year earlier. Quebec and British Columbia led the growth, with the largest gains in the public sectors of education and health.

Public sector employment (education, health and welfare, and public administration) expanded in the past year by 113,000. This 4.0% growth accounted for all of the net increase in total employment since February. Without this gain, job losses in 1991 would have been 2.5%, instead of the actual 1.0%. Job growth was most pronounced at the municipal level. Municipalities raised spending faster than any other level of government last year, as they had to cope with growing welfare rolls while making needed repairs to a decaying infrastructure. This was particularly true in

Ontario and Quebec, where the recession was most severe. At the federal level, Statistics Canada hired more than 40,000 temporary workers for the Census.

Employment in the financial industry recovered strongly in the second half of the year, especially in Ontario where almost half the industry is located. An upturn in stock and bond placements and trading contributed to this growth. Transportation, communication and utilities continued to slow down after a sharp 4% drop in jobs in the first half of the year, reflecting the weak recovery in the volume of goods produced and distributed.

Firms emphasized productivity...

The steady reduction in employment in goods-producing industries in 1991 accompanied growth in the production of goods after

March. The resulting sharp increase in output per person, after a slight gain in 1990, reflects the emphasis firms have placed on improving productivity. This pattern differs from past recessions. In the past, productivity slumped with the economy. In this cycle, productivity suffered in the two years prior to the recession as output growth slowed while hiring continued. However, once the recession hit, firms pruned jobs aggressively.

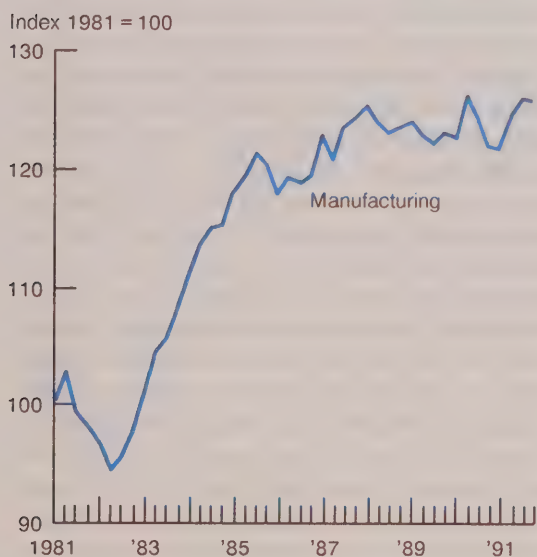
The increase in output per person employed was most pronounced in manufacturing, which faces intense competition both here and in key export markets at a time of historically low profit margins. Manufacturing had already managed to raise productivity by 1.3% in 1990 – despite a 5% drop in output – by slashing labour utilization by almost 7%. This is in stark contrast with the sharp drop in output per employee during the 1981-82 recession. The pressure to cut costs remained severe at the end of 1991, and a number of large corporations announced further plans to restructure and to trim payrolls.

In line with such cutbacks, full-time employment fell by 150,000 last year, while part-time jobs rose by 23,000 – with all of the increase due to involuntary part-time work. In addition, the number of people working extra hours dropped by almost 10% in 1991. However, the shift from full-time to part-time occurred in the first half of the year. Since June, full-time employment grew by over 70,000 while part-time edged down.

The tentative recovery in full-time employment is noteworthy for at least two reasons. First, it provides an infusion to take-home pay at a time when sluggish consumer spending has hampered economic growth. Second, full-time employment grows only when the economy is expanding – one of the few signs that a recovery is gradually taking hold.

Output per person employed

Labour productivity continued to improve despite the recession.



Sources: Labour Force Survey and National Accounts and Environment Division

... which changed the education and skills required by firms

The emphasis on productivity has had implications for the type of worker that firms hire. Broadly speaking, there was a direct correlation between employment changes and education levels in the past year – the more education and training, the better one's job prospects.

Employment among people with university degrees rose by 4.1% (or nearly 75,000 jobs) in 1991, the largest increase of any group. The only other increase was a 3.8% gain for people with some post-secondary education. Jobs for people with a high school diploma fell by 0.8%, while for people with only some high school education they dropped by 5.5%. People with eight years or less of school saw employment tumble by 4.3%. (Data not seasonally adjusted.)

This was more of a blue-collar recession than in 1981-82

As is typically the case, blue-collar occupations saw their unemployment rates climb the most in this recession. While white-collar employment rose slightly in this downturn, blue-collar jobs fell by 8% in the past two years. (The data in this section are not seasonally adjusted.)

The unemployment rate for blue-collar occupations rose from 10.6% in December 1989, to 13.7% in 1990, and jumped to 15.2% at the end of 1991. Rates were highest in construction, material handling and primary occupations, which have experienced persistently high unemployment over the last two years. The remaining blue-collar occupations (processing and transport) saw their unemployment rates rise about five percentage points to at least 11%.

White-collar occupations experienced a one-third increase in their unemployment rate, compared with a near doubling in the 1981-82 downturn when the number of such

jobs fell by 2%. The unemployment rate in white-collar occupations rose to 7.5%, less than half the rate for blue-collar jobs.

The less severe impact of this recession on white-collar jobs compared with 1981-82 was evident in all major occupations. The discrepancy was largest for the managerial and administrative, and clerical groups, where unemployment rose at only half the 1981-82 pace. Managerial and administrative jobs fared particularly well, rising over 7% in the last two years, with the largest gains occurring when the recession was at its worst.¹ Some of this job growth may reflect higher productivity, possibly due to the proliferation of computers. (For example, the ratio of clerical to managerial jobs has fallen by one-third in the last decade, with much of this occurring in the past two years.)

The more modest increase in unemployment for white-collar than for blue-collar jobs in the 1990-91 recession may be surprising to some. It has been widely publicized that the recession in the United States has seriously affected white-collar employment. With the current downturn having been longer and more severe in Canada, and the speculation that some job losses reflected the permanent closing of whole operations and not just the temporary layoff of assembly-line workers, one might reasonably have assumed that white-collar jobs would have been more at risk in Canada.

A number of factors may have cushioned the blow for white-collar occupations in Canada. The recession in the United States was much more severe for the financial industry, reflecting widespread closures of banks and savings and loans institutions. Structural changes, as opposed to normal cyclical forces, were also a factor in the downsizing of the defense industry. It may also be that U.S. multinational corporations have more white-collar staff at headquarters than in their Canadian

operations, so the latter would be proportionately less affected by the restructuring of headquarters operations. The announcement of cutbacks in management positions by several large companies in Canada late in 1991, however, serves as a reminder that the process may not yet have run its course.

Unemployment

The unemployment rate rose by one percentage point in the past 12 months to 10.3% in December – compared with a 1.7 point increase from 1989 to 1990. Most of the increase occurred in the first half of the year, with a slight dip at year end. The unemployment rate had touched a pre-recession low of 7.2% in March 1990, before jumping a full two percentage points in the last nine months of 1990, and another point in 1991.

People with fewer skills were most susceptible to unemployment

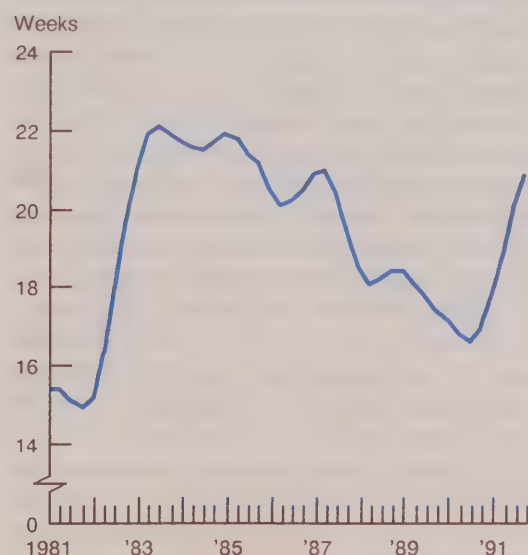
Temporary layoffs rose less rapidly in this recession than in 1981-82. Layoffs as a percentage of employment never rose past 0.9%, compared with a peak of 1.5% in the early 1980s. Data from the Ontario Ministry of Labour, however, suggest that permanent plant closures are becoming more common – a trend that has been evident since the mid-1980s. Past experience suggests that workers permanently laid off find another job within six months, although often at a lower wage rate. About one-quarter of displaced workers have long-term problems finding new jobs, especially if they used to work in construction or primary industries and had relatively little education. Evidence from the last recession shows that workers with postsecondary education were not significantly more secure in their jobs. However, once laid off, they found a new job much more quickly and often at a higher wage (Picot and Wannell).

Unemployment rose for almost all education groups, as the number of people with at least some postsecondary education

swelled faster than the number of job opportunities (Cohen). But the increase in unemployment for people with a high school diploma or less was restrained by a drop in labour force participation, especially for older men. The unemployment rate for people with a high school diploma or less rose to double digits, while for university graduates it remained under 5%. The recently published General Social Survey study on social mobility found that 48% of parents have not gone past grade eight in school, while 43% of their children have some postsecondary education (Creese et al). This suggests that youths will be better positioned to participate in the labour market when the economy improves, while older, less educated workers risk being worse off.

Duration of unemployment

The average length of unemployment continues to sharply increase.



Source: Labour Force Survey

The notion that people with marginal skills who lost their jobs in the current recession may have difficulty recovering a place in the labour market is reinforced by the lengthening duration of unemployment. The average duration rose from just under 17 weeks to almost 21 weeks during the year. The longer spells of unemployment partly explain why unemployment remains high, despite a recent decline in the number of first-time unemployment insurance claimants. A recent study also suggests that once people are on unemployment insurance, they have a significantly higher probability of becoming chronic users of unemployment insurance. This is particularly true for young, relatively uneducated workers (Corak).

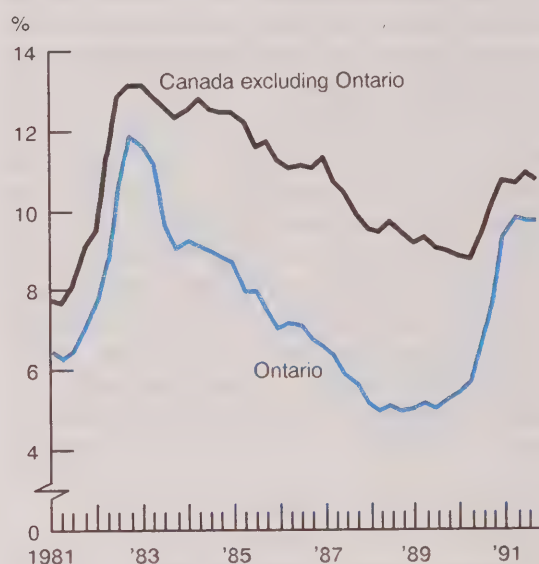
Unemployment remained high in all regions

While the unemployment rate fell slightly from its peak of 10.6% in August, by December it still remained higher than a year earlier in all provinces. The increase in unemployment and the drop in jobs in the current recession were much more heavily concentrated in Ontario than in 1981-82 – partly because this was a more severe recession for manufacturing, and almost half Canada's manufacturing jobs are in Ontario. Moreover, the type of manufacturing done in Ontario made this province more vulnerable – the auto industry, for example, was hit particularly hard. Unemployment in manufacturing jumped from 7.9% to 12.2% in the current downturn. The overall unemployment rate in Ontario soared from 5.2% at the start of the recession to peak at 10.2% in June, before moderating slightly to 9.7% by year's end.

Most of the Western provinces saw unemployment rise by about two percentage points during this recession, with about half of the increase occurring in the past year. Unemployment remained near 10% in British Columbia, even though the province

Unemployment rate

Unemployment in this recession was much more concentrated in Ontario than in 1981-82.



Source: Labour Force Survey

led employment growth in the last six months of 1991. Moderate job losses in Alberta in the second half of the year helped to push unemployment on the Prairies up to a yearly high of 8.5% in December.

Quebec posted the smallest unemployment rate increase in the past 12 months. The rate edged up to 11.8% from 11.7% at the end of 1990, but was still lower than the peak of 12.5% set in March 1991. Employment recovered slowly in the second half of the year, while the size of the labour force remained virtually the same. In percentage terms, manufacturing in Quebec suffered more than in Ontario, despite the stability arising from Quebec's largest industry, food processing, which is very stable compared with Ontario's auto assembly industry. This stability was swamped, however, by severe losses in resource-based industries such as wood, paper and metals.

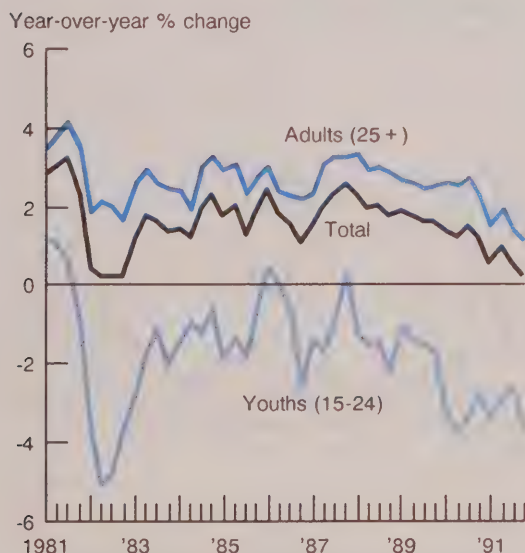
The Atlantic provinces continued to have the highest rate of unemployment (13.3% at the end of 1991). The rate increased by about one percentage point, due to higher unemployment in Nova Scotia and New Brunswick. The unemployment rate in Prince Edward Island remained steady, while a drop of almost one percentage point in Newfoundland reflected relatively strong employment growth.

Labour force participation

One reason for slower unemployment growth during 1991 was a drop in the labour force participation rate from 66.7% to 65.8%. This was the lowest rate since July 1986 and the first annual decline since 1982.

Labour force growth

Labour force growth for adults was the slowest in the decade, while it declined steadily for youths.



Source: Labour Force Survey

Where have all the people gone?

The drop in the participation rate reflects a number of demographic and economic factors. The number of young people (aged 15 to 24) continues to decline in absolute terms, down 25,000 for 1991, a result of the "baby-bust" that followed the "baby-boom." Compounding this decline was a dip in the rate at which young people entered the labour force. Participation rates fell by over two percentage points for both men and women at a time of bleak job opportunities. An increase in the number of young people enrolled at university suggests a decision to upgrade education and skills at a time when few entry-level positions were available. (This is partly reflected in the continued weak level of the Help-wanted Index, which remained near 70 – based on 1981 equalling 100 – at year end.) The number of university enrollment jumped by almost 35,000 in the fall of 1991 and the total student population (aged 15 and over) rose about 100,000, while there was a decrease in the number of students in the labour force.² Despite the withdrawal of young people from the job market, the unemployment rate for students rose to 9.7%, reflecting a steep drop in employment.

Adult men (age 25 and over) continued to reduce their labour force participation – a trend that began in the 1960s. Only 75.5% of adult men were in the labour force by year end, down about one point from a year earlier. The drop was equally evident for men aged 25 to 54 and for those 55 and older, suggesting that early retirement did not play a major role in last year's decline.

For the first time on record, the labour force participation rate for women fell in 1991. (The only other year without an increase was 1982 when the rate was unchanged.) However, a record drop in the participation rate of younger women accounted for the overall decline. The labour force participation rate for adult women was

relatively steady, which together with their growing population raised their absolute number in the labour force by 76,000. Most of the increase was in Quebec and British Columbia. The nearly stable participation rate for adult women may partly reflect the pressure to support the family as adult men lose their jobs.

Overall however, there is little direct evidence that people left the labour force because they believed no work was available. The number of discouraged workers in December was up only 7,000 from a year earlier, and at 56,000 the level was only 20,000 higher than the pre-recession level. This contrasts sharply with the nearly three-fold increase to 133,000 during the last recession. As well, the number of people on temporary layoff fell slowly during the year. In 1991, people were more likely to say they were not looking for a job because they were at school (up 19,000 to 121,000). (The data in this paragraph are not seasonally adjusted.)

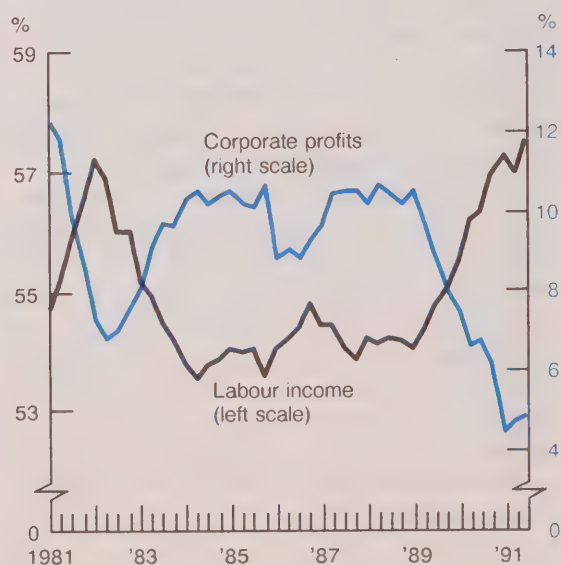
The recession restrained strike activity...

Time lost in work stoppages in the first ten months of 1991 was at its lowest level since data started being collected in 1976. The reduction in strike activity reflected a very light bargaining calendar in the private sector, after a number of strikes in 1990, and sharply rising unemployment in industries with a history of labour disputes. Strikes tend to proliferate as the economy approaches a downturn – firms see profits shrinking rapidly, while workers are trying to recoup real wages lost to the upturn in inflation that usually accompanies the end of an expansion. This was exacerbated in 1990 by the record low share of national income accruing to corporate profits. Strikes usually wane as unemployment mounts after a recession hits.

Over the last two years, the focal point of labour disputes shifted from the private to the public sector. The largest strikes in 1990 occurred in private-sector industries such as autos, steel, and paper. Workers were demanding more job security as the recession hit, and more money as the GST loomed on the horizon. Strikes in the second half of 1991, however, were concentrated in the public sector. Labour disputes in the private sector diminished steadily through the year, to their lowest levels in at least 15 years as unemployment mounted. Time lost in work stoppages was negligible in industries where the unemployment rate rose to double digits. This was particularly true in construction, where strike activity virtually stopped as unemployment rose past 20%. Manufacturing and mining also recorded little labour unrest after an acrimonious 1990.

Share of GDP

Corporate profits' share of total income has fallen to a post-Depression low.



Source: National Accounts and Environment Division

... and kept wage increases down

The proliferation of public-sector strikes followed the introduction of wage controls by many levels of government. Following the federal government's announcement in February to freeze wages for one year, and to cap increases at 3% in the following two years, a majority of provincial governments introduced some form of wage restraint.³ As a result, negotiated wage settlements in the public sector slowed from 6.5% in the first quarter to 2.8% in the third. Over the same period, settlements in the private sector eased from 5.4% to 3.9%. (Data in this section are not seasonally adjusted.)

The slowdown in negotiated wage settlements has gradually begun to show up in average hourly earnings. The fixed-weighted measure of average hourly earnings moderated from a peak year-over-year rate of 6.3% in February to 4.8% in October.⁴ With price inflation falling even

faster (from 6.8% in January when the GST was introduced, to 3.8% in December), real earnings picked up despite the moderation in year-over-year wage gains.

The deceleration in wage increases was evident in almost all major industries. The most pronounced slowdown was in public administration, where wage controls reduced increases from 7.1% (the highest of any industry) in January to an economy-wide low of 2.0% in October. Increases in other services slowed less dramatically, and averaged 5.5% in October. Earnings in goods-producing industries decelerated to 4.3%, down about one percent from early in the year.

The combination of a deceleration in wage rates and sharply lower total hours of work paid for led to a pronounced slowdown in labour income growth. Labour income fell steadily from an annual growth rate of 8% early in 1990 to a low of 3.1% in May 1991.

Hourly earnings and consumer prices

A sharp drop in the CPI recently has boosted real wages.

Year-over-year % change



Sources: Prices Division and National Accounts and Environment Division

Subsequently, it rebounded slightly to 3.3% in October, largely because employment levelled off and the average workweek lengthened slightly. Total hours of paid employment fell by 9% over the same period.

The recession has dispelled a number of myths...

The 1990-91 recession has added to our knowledge of how labour markets behave over the business cycle. In particular, it confirmed a number of new patterns of growth that first appeared early in the 1980s, and should cause economists to reconsider a number of commonly held assumptions about the economy.

... Employment lags behind changes in output

It is commonly believed that employment declines after a drop in production, as employers "hoard" their most valuable workers in case they might find work elsewhere. The last three recessions strongly suggest that this is no longer true. In each of the recessions in 1980, 1981-82, and 1990-91, employment began to fall within a month of a drop in total GDP, and subsequently both series resumed growth in the same month.

... Jobs are cut less than output in a recession

Moreover, employment now tends to fall almost as fast as GDP. In previous decades, it was rare for employment to contract at all during a recession. In the 1981-82 recession, however, the 5.5% drop in jobs was almost as severe as the 6.2% loss in output. This pattern appeared to continue in the 1990-91 recession, as employment dropped 2.4% while GDP dipped by 2.8%.

The closer synchronization of both the timing and the magnitude of drops in employment and GDP probably has its origins in the emphasis firms have placed on

raising productivity. The persistently high level of unemployment in the past decade has also reduced the risks of losing valued employees to other firms when demand recovers.

... Unemployment rises early in a recovery

It is widely believed that unemployment rises in the early stages of a recovery, as job growth is slow while discouraged workers flood back into the labour market. This view has not held up in the last three business cycles.

In 1980, the unemployment rate peaked one month before output began to recover. In 1982, the rate peaked only one month after GDP started to grow. In 1991, the unemployment rate began to fall in April just as GDP began tentative growth. Then unemployment jumped again in August as GDP sagged once more. The close correlation between employment and output noted earlier is also evident between unemployment and output, reflecting the fact that labour force growth early in a recovery is usually very weak. In the eight months since employment hit a low in February 1991, the labour force grew only 0.4%, while in the first year of the recovery in 1983 it rose 1.5%.

... Services are immune from recessions

The rapid growth of services in recent decades was supposed to dampen fluctuations in the business cycle, since in the past, services were largely immune to recessions and were not subject to the inventory cycle. In fact, both the 1981-82 and 1990-91 recessions were very severe by post-war standards – partly because the service sector was affected by them. Both output and employment in services declined in the last two recessions. The drop in 1990-91 was particularly severe, with a total employment decline of 1.3% at the depth of the recession.

The introduction of the GST in January 1991 shifted the relative tax burden from goods to services and was accompanied by a record monthly drop (-0.8%) of employment in services. Even before the GST, however, services had become increasingly sensitive to fluctuations in the goods-producing sector. This reinforces the notion that part of the growth of services in recent years reflects an "unbundling" or "contracting-out" of tasks previously done in-house by goods-producing firms.

Conclusion

The faltering recovery in the United States and weak consumer spending in Canada at year end continue to raise questions about a resumption of sustained economic growth.

The dramatic move by the U.S. Federal Reserve Board, slashing interest rates on December 23rd, has raised hopes for a re-ignition of the engines of growth in that country. In Canada, however, a sustained recovery in consumer spending is unlikely before labour market conditions improve. In past recoveries, consumers had the option of financing higher spending by borrowing or dipping into savings if income growth lagged. Neither option appears feasible now.

Debt levels are already at historically high levels and most savings are now contractual or "locked-in" – such as pensions and RRSPs. Weak consumer confidence, reflecting growing concern over job security, also restrains taking on new debt or dipping into savings. In turn, this highlights the need for a recovery in real incomes to sustain growth in consumer spending.

Some forecasters have suggested that the 1990s will see a return to realism after the long period of growth and financial excesses that characterized much of the 1980s. Certainly the latest recession has been sobering for many Canadians.

The new realities of the labour market include an increased importance attached to education and skill levels. Young people have again been disproportionately affected by the recession as firms were quick to stop filling entry-level positions. The return of youths to schools and universities in record numbers, however, augurs well for their ability to exploit new labour market opportunities when economic growth resumes. But older workers who have lost their jobs, particularly those in less-skilled blue-collar positions, may have considerably more difficulty in adapting to the more competitive labour market of the 1990s. □

Notes

¹ For a more detailed examination of the occupational dimension of unemployment, see Gowg.

² The enrolment figure is from Education, Culture and Tourism Division while the other numbers are from the Labour Force Survey.

³ These were Newfoundland, Nova Scotia, New Brunswick, Quebec, Manitoba, Saskatchewan and British Columbia.

⁴ For information on how this measure is derived, see P. Smith, 1989. For an analysis of recent trends, see P. Smith, 1990.

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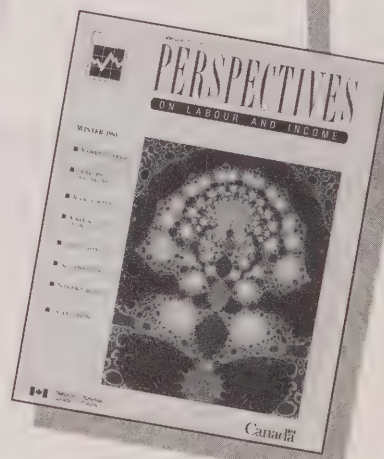
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Notes – concluded

⁸ Diversification is defined here as an increase in employment in a community through the introduction of new industry or through the expansion of an existing industry other than the single sector industry.

⁹ The framework is used only as a simple sorting device since the allocation to each category is based on the direction of change in a community's labour force and does not provide any indication of the magnitude of change. For some communities, the magnitude of

change is so small that the community could be classed as stable. Where the community labour force was the same for both years the community was placed in the plus category; if the single sector labour force was stable, it too was placed in the plus category. In all cases, however, at least one of the two elements changed.

¹⁰ This number includes licensed fish processing plants in the province of Quebec.

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Note: An early version of this study was presented at the "Rural and small town Canada: economic and social reality conference" held in Ottawa in October 1990.

Appendix

The study communities

Fishing and fish processing communities:

Newfoundland

Arnold's Cove – Southern Harbour
Bay de Verde
Belleoram
Bonavista
Burin
Burnt Islands – Rose Blanche
Catalina
Change Islands
Englee
Fermeuse – Renews – Port Kirwan
Ferryland
Fogo
Fortune
Gaultois
Grand Bank
Harbour Breton
Isle aux Morts
Joe Batt's Arm
L'Anse au Loup – Forteau
La Scie
Marystown
Port Hope Simpson
Port Saunders
Ramea
Trepassey
Wesleyville

Prince Edward Island

Souris
Tignish

Nova Scotia

Canso
Clark's Harbour
Lockeport
Louisbourg

New Brunswick

Bas-Caraquet
Blacks Harbour
Cap-Pelé
Grand Harbour
Lamèque
Shippagan

Mining and refining communities:

Newfoundland

Baie Verte
Buchans
Daniel's Harbour
Labrador City

Quebec

Asbestos

Contrecoeur
East Broughton Station
Fermont
Gagnon
Havre-Saint-Pierre
Malartic
Matagami
Murdochville
Saint-Joseph-de-Coleraine
Schefferville

Ontario

Atikokan
Ear Falls
Elliot Lake
Ignace
Manitouwadge
Onaping Falls
Pickle Lake
Red Lake – Balmertown
Temagami
Virginiatown (McGarry)
Wawa (Michipicoten)

Manitoba

Flin Flon
Leaf Rapids
Lynn Lake
Snow Lake
Thompson

Saskatchewan

Esterhazy

Alberta

Blairmore (Crowsnest Pass)
Fort McMurray
Fox Creek
Grande Cache
Swan Hills

British Columbia

Ashcroft
Cassiar
Elkford
Fernie
Fraser Lake
Fruitvale
Granisle
Kimberley
Kitimat
Logan Lake
Montrose
Port Hardy
Sparwood
Stewart
Trail

Appendix – concluded

Yukon

Faro

NWT

Pine Point

Wood-based communities:

Nova Scotia

Hantsport

New Brunswick

Canterbury

Charlo

Chipman

Dalhousie

Doaktown

Eel River Crossing

Kedgwick

Nackawic

Plaster Rock

Rivière-Verte

Saint-Quentin

Sainte-Anne-de-Madawaska

Quebec

Barraute

Belleterre

Bromptonville

Chandler

Clermont

Crabtree

Daveluyville

Dégelis

Dolbeau

Donnacona

East Angus

Ferme-Neuve

Forestville

Fort-Coulonge

Girardville

La Tuque

Lac-au-Saumon

Laurier-Station

Lebel-sur-Quévillon

Marsoui

Mont-Rolland

New Richmond

Notre-Dame-de-la-Doré

Parent

Portage-du-Fort

Price

Saint-François-d'Assise

Saint-Michel-des-Saints

Saint-Pamphile

Témiscaming

Thurso

Ontario

Beardmore

Dryden

Espanola

Field

Geraldton

Hearst

Iroquois Falls

Kapuskasing

Longlac

Marathon

Mattawa

Nipigon

Red Rock

Schreiber

Smooth Rock Falls

Terrace Bay

Saskatchewan

Hudson Bay

Alberta

Hinton

British Columbia

Campbell River

Chetwynd

Duncan

Fort St. James

Gibsons – Port Mellon

Gold River

Golden

Houston

Ladysmith

Lake Cowichan

Mackenzie

Nakusp

Port Alberni

Port Alice

Powell River

Quesnel

Squamish

Tahsis

Absences from work revisited

Ernest B. Akyeampong

Absenteeism remains a growing and costly problem for Canadian companies. A comprehensive study on the subject, produced by this author several years ago, revealed a rising trend in work absences from 1977 to 1987 (Akyeampong). Since then, the problem has gotten worse. For example, workdays missed among full-time paid workers for personal reasons (that is, "illness or disability" and "personal or family responsibilities") rose by almost a full day, from 8.6 days per worker in 1987 to 9.4 days in 1990. And like the 1977 to 1987 period, almost all of the increase in work time lost since 1987 resulted from personal and family demands.

This study will update the data on the levels and variations of work absences for personal reasons, and highlight any significant departures from the earlier findings. As such, the concepts, definitions, measurements and worker coverage remain the same as those used in the earlier study (see *Data source, coverage, definitions and measurements*).

Recent trends

Estimates from the Labour Force Survey reveal an upward drift in absences from

work for personal reasons among full-time paid workers in recent years. Not only has the frequency of such work absences grown in the last four years, but the resulting time lost has also increased.

In an average week in 1990, about 6.4% (558,000) of all full-time paid workers holding one job were absent from work for all or part of the week for personal reasons. This was considerably higher than the 1987 level of 5.8% (483,000). Total work time missed also rose from 3.4% of all weekly scheduled work time to 3.7%. Extrapolated over the full year, work time lost for personal reasons increased from the equivalent of 8.6 days per worker in 1987 to 9.4 days in 1990 (Table 1).

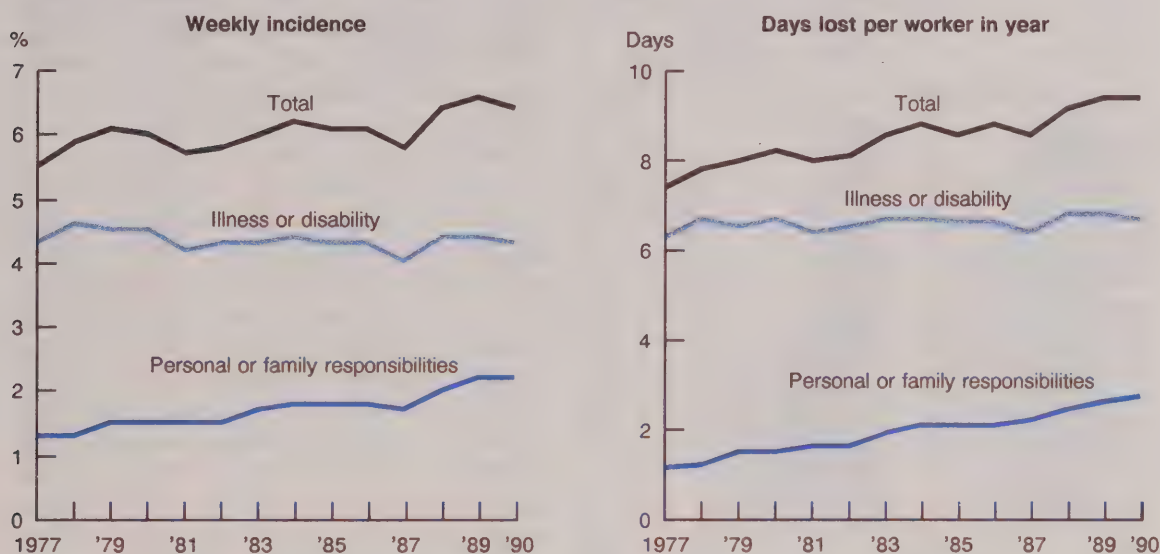
Between 1987 and 1990, time lost per worker due to illness or disability increased by a third of a day to 6.7 days, while time lost on account of personal or family responsibilities rose by an extra half day to 2.7 days.

Time lost for personal reasons averaged 7.3 days for men in 1990, hardly different from the 1987 rate of 7.2 days. Among women, however, the picture was different. Work absences for personal reasons rose to 12.4 days on average in 1990, a day and a half increase from 1987. Most of this increase was due to personal or family obligations (up almost a full workday to 5.2 days). The increased presence of women with preschool children in the workforce is largely responsible for the continuing growth in work absences for personal reasons.

Ernest B. Akyeampong is with the Labour and Household Surveys Analysis Division. He can be reached at (613) 951-4624.

Absence rates of full-time paid workers

Work absences increased over the period. Almost all of the growth was due to personal or family demands.



Source: Labour Force Survey

Over the past 14 years, work days lost due to illness or disability among full-time paid workers have oscillated around 6.5 days a year for men, and 7 days a year for women. But between 1977 and 1990, absences due to personal or family obligations among full-time paid women workers almost tripled from 1.9 days to 5.2 days a year. In contrast, time lost by male workers inched up slowly from 0.7 days in 1977 to a shade under one full day 13 years later.

Variations in absence levels

Several factors affect the level and mix of absences from work for personal reasons. Principal among these are: the working conditions (for example, the physical work environment, the degree of job stress, employer-employee relations, collective agreement provisions, work schedules); the adequacy and/or affordability of community

facilities such as child-care centres and public transportation; family circumstances, especially the presence of preschool children and other dependent family members; and the physical health of the worker, a factor closely related to age. Measuring the impact of these and other contributing factors is not easy, but a comparison of personal absence levels and patterns by selected demographic characteristics, occupation and industry offers some useful insights.

Differences by selected demographic characteristics

The propensity to miss work for personal reasons increases with age. This is true for both the frequency of absences, and the number of days lost per worker. It applies equally to men and women, though, there are important differences in the underlying factors, especially in the 20 to 54 age group.

Table 1
Absence rates of full-time paid workers by sex, 1977-1990*

	Incidence			Inactivity rate			Days lost per worker in year		
	Total	Illness or disability	Personal or family responsibilities	Total	Illness or disability	Personal or family responsibilities	Total	Illness or disability	Personal or family responsibilities
	%			%			days		
Both sexes									
1990	6.4	4.3	2.2	3.7	2.7	1.1	9.4	6.7	2.7
1989	6.6	4.4	2.2	3.8	2.7	1.0	9.4	6.8	2.6
1988	6.4	4.4	2.0	3.7	2.7	1.0	9.2	6.8	2.4
1987	5.8	4.0	1.7	3.4	2.6	0.9	8.6	6.4	2.2
1986	6.1	4.3	1.8	3.5	2.6	0.9	8.8	6.6	2.1
1985	6.1	4.3	1.8	3.4	2.6	0.8	8.6	6.6	2.1
1984	6.2	4.4	1.8	3.5	2.7	0.8	8.8	6.7	2.1
1983	6.0	4.3	1.7	3.4	2.7	0.8	8.6	6.7	1.9
1982	5.8	4.3	1.5	3.3	2.6	0.6	8.1	6.5	1.6
1981	5.7	4.2	1.5	3.2	2.6	0.6	8.0	6.4	1.6
1980	6.0	4.5	1.5	3.3	2.7	0.6	8.2	6.7	1.5
1979	6.1	4.5	1.5	3.2	2.6	0.6	8.0	6.5	1.5
1978	5.9	4.6	1.3	3.1	2.7	0.5	7.8	6.7	1.2
1977	5.5	4.3	1.3	3.0	2.5	0.5	7.4	6.3	1.1
Men									
1990	5.2	3.9	1.3	2.9	2.5	0.4	7.3	6.3	0.9
1989	5.4	4.1	1.4	3.0	2.6	0.4	7.5	6.5	0.9
1988	5.3	4.0	1.3	2.9	2.6	0.4	7.3	6.4	0.9
1987	4.9	3.8	1.1	2.9	2.5	0.3	7.2	6.4	0.8
1986	5.2	4.1	1.2	2.9	2.6	0.3	7.3	6.6	0.8
1985	5.1	3.9	1.1	2.8	2.5	0.3	7.0	6.3	0.8
1984	5.3	4.1	1.2	2.9	2.6	0.3	7.3	6.5	0.8
1983	5.2	4.0	1.2	2.9	2.6	0.3	7.3	6.5	0.8
1982	5.1	4.1	1.1	2.9	2.6	0.3	7.2	6.5	0.7
1981	5.0	3.9	1.1	2.8	2.5	0.3	6.9	6.2	0.7
1980	5.3	4.2	1.1	2.9	2.6	0.3	7.3	6.6	0.7
1979	5.4	4.2	1.2	2.8	2.5	0.3	7.1	6.3	0.8
1978	5.4	4.3	1.1	2.9	2.6	0.3	7.2	6.5	0.7
1977	5.0	4.0	1.0	2.7	2.4	0.3	6.8	6.1	0.7
Women									
1990	8.1	4.8	3.3	5.0	2.9	2.1	12.4	7.1	5.2
1989	8.3	5.0	3.3	4.9	2.9	2.1	12.3	7.2	5.1
1988	7.9	4.9	3.0	4.8	2.9	1.9	12.0	7.3	4.7
1987	7.0	4.3	2.7	4.3	2.6	1.7	10.8	6.5	4.3
1986	7.4	4.7	2.7	4.4	2.7	1.7	11.0	6.7	4.4
1985	7.6	4.9	2.8	4.5	2.8	1.7	11.2	7.0	4.2
1984	7.7	4.9	2.7	4.5	2.8	1.7	11.3	7.1	4.2
1983	7.3	4.8	2.5	4.3	2.8	1.5	10.8	7.0	3.8
1982	6.8	4.7	2.2	3.9	2.6	1.2	9.6	6.6	3.1
1981	7.0	4.8	2.2	4.0	2.7	1.3	10.0	6.8	3.2
1980	7.1	5.0	2.1	4.0	2.8	1.2	9.9	7.0	2.9
1979	7.2	5.0	2.1	3.8	2.7	1.1	9.6	6.8	2.8
1978	6.8	5.1	1.7	3.6	2.8	0.8	9.0	7.1	2.0
1977	6.5	4.8	1.6	3.4	2.7	0.8	8.6	6.7	1.9

Source: Labour Force Survey

* Incidence = (no. of workers absent ÷ total employed) x 100. Inactivity rate = (no. of hours absent ÷ no. of hours usually worked) x 100. Days lost per worker = inactivity rate x no. of working days in year (250 in this study).

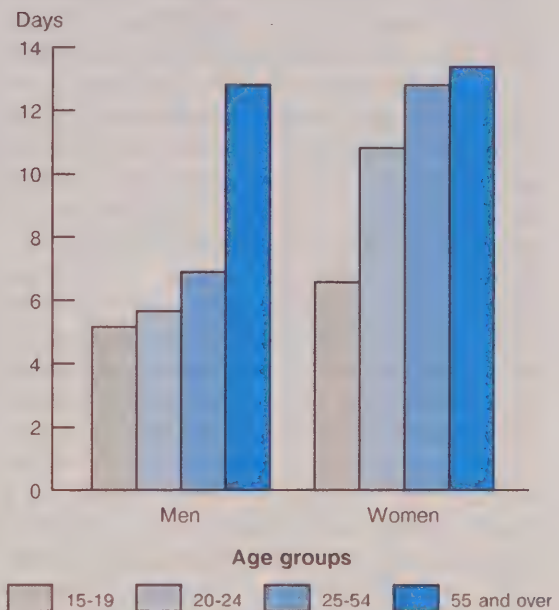
In 1990, the proportion of workers reporting some absence for personal reasons in any given week ranged from a low of 5.0% among teenage workers, to a high of 7.1% among those aged 55 and over. Health problems are mainly responsible for higher absence levels among older workers. In 1990, about 6% of this group reported an absence from work due to illness or disability in any given week; the comparable figure for teenage workers was over half that level (3.4%). However, the corresponding inactivity rate (namely, the proportion of scheduled work time that was lost as a result of these absences) between older and teenage workers was relatively greater (5.2% versus 2.3%). This is due to the fact that absences from work, because of illness or disability, generally last longer among older workers. Workdays lost due to illness or disability amounted to 12 days among workers 55 years or older in 1990, and only 4.2 days among teenage workers. In all age groups though, the proportion of workers reporting some absence and the time lost each week was higher in 1990 than in 1987.

The presence of children appears to exert a strong and growing upward pressure on absence levels among mothers working full time in paid jobs, but has very little influence upon fathers. Working mothers missed 7.9 days of work on average in 1990 (6.5 days in 1987) to attend to personal or family demands. In families with at least one preschool child, workdays missed for personal or family demands were much higher, averaging 25.1 days (20.5 days in 1987). Conversely, working women with no children lost only 2.3 workdays in 1990. For full-time paid working men, time lost due to personal or family obligations hardly changed over the period (averaging around one day lost in 1990 among families with children, and only 0.8 days among those without children).¹

Among the reasons for the higher absence levels among working mothers, the

Average days lost by full-time paid workers, 1990

Days lost per worker for personal reasons increases with advancing age.



Source: Labour Force Survey

persistence of traditional practices appears to be important. Years ago, when few women held jobs outside of the home, they generally handled most family responsibilities, such as caring for a sick child or other dependant or taking a child to see a doctor or dentist. It appears that this division of parental responsibilities has not changed over the years in spite of the shift towards equality in responsibility for family financial support.

Variations by industry

There are significant differences among the major industries with respect to the percentage of workers reporting a personal absence during an average week, as well as differences in the mix of reasons for these absences. The nature and demands of the job,

and the sex composition of the industry workforce are two important factors accounting for these variations.

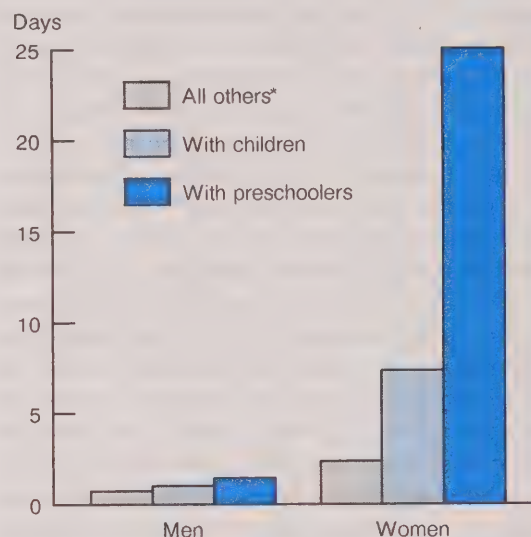
In 1990, absence levels in the goods-producing sector were only marginally higher than in the service-producing sector. For example, 6.6% of full-time workers reported some absence in any given week in the goods-producing sector, resulting in an average of 9.8 days lost, compared with 6.4% in the service-producing sector, and 9.1 days lost (Table 2). However, workdays missed due to illness or disability featured prominently in the more hazardous and physically demanding goods-producing industries. Absences for these reasons accounted for 82% (8 days) of total time missed by employees in the goods sector, compared with about 67% (6.1 days) in the service industries. By contrast, in the service sector, which has a larger proportion of women workers, more work time was missed as a result of personal or family responsibilities (3.1 days versus 1.9 days in the goods sector).

Among industry groups, absences were highest in public administration, followed closely by manufacturing. A full 8% of public servants were absent from work for personal reasons for all or part of any given week in 1990, averaging 10.8 days off the job during the year. In manufacturing, 7% were absent for an average of 10.5 days. The large proportion of women in public administration no doubt contributes to the higher absence levels in that industry. High absence rates in the manufacturing industry may partly be traced to the hazards of the job, and to the generally older age levels of the workforce. In addition, both industries are highly unionized.

The lowest incidence of worker absence for personal reasons was in agriculture, where only 4.2% reported some absence in any given week in 1990 for an average of only 5.8 days lost during the year. The same reason that drives paid agriculture workers

Average days lost by full-time paid workers for personal and family reasons, 1990

The presence of children greatly increases the absence levels for working women, but has little effect on men.



Source: Labour Force Survey

* Includes unattached individuals and persons living in families with no children.

to work long workweeks (See G. L. Cohen's, "Hard at work," in this issue), also appears to underlie the low levels of absences in this industry. The seasonal nature of agricultural work, and the limited periods in the year during which paid workers are employed on a full-time basis in the industry, no doubt contribute to these exceptionally low results.

At a more detailed industry level, the highest number of workdays lost were recorded by employees in health and social services (14.3 days per worker in 1990) and in banks and other financial institutions (11.7 days). This reflects the predominance of women in these industries. Absences related to personal or family responsibilities

Table 2
Absence rates of full-time paid workers by province, industry and occupation, 1990*

	Incidence			Inactivity rate			Days lost per worker in year		
	Total	Illness or disability	Personal or family responsibilities	Total	Illness or disability	Personal or family responsibilities	Total	Illness or disability	Personal or family responsibilities
	%			%			days		
Canada	6.4	4.3	2.2	3.7	2.7	1.1	9.4	6.7	2.7
Province									
Newfoundland	5.9	4.4	1.5	4.0	3.1	0.9	10.1	7.8	2.3
Prince Edward Island	...	...	...	...	...	...	...	...	...
Nova Scotia	6.1	4.0	2.1	3.6	2.6	1.0	9.1	6.5	2.6
New Brunswick	6.6	4.4	2.2	3.7	2.7	1.0	9.3	6.8	2.5
Quebec	6.5	4.2	2.3	4.2	2.9	1.3	10.5	7.2	3.2
Ontario	6.7	4.4	2.2	3.8	2.8	1.1	9.5	6.9	2.7
Manitoba	7.6	4.9	2.7	3.6	2.6	1.0	9.0	6.4	2.6
Saskatchewan	5.8	3.6	2.2	3.2	2.0	1.2	8.0	5.1	2.9
Alberta	5.9	3.9	2.1	2.9	2.0	0.9	7.3	5.0	2.2
British Columbia	5.8	4.1	1.7	3.4	2.6	0.8	8.5	6.4	2.1
Industry									
Goods industries	6.6	4.7	1.9	3.9	3.2	0.7	9.8	8.0	1.9
Agriculture	4.2	...	...	2.3	...	...	5.8	...	...
Other primary	5.8	4.4	1.5	3.6	3.1	0.5	9.1	7.8	1.3
Manufacturing	7.0	5.0	2.0	4.2	3.4	0.9	10.5	8.4	2.1
Construction	5.6	4.0	1.6	3.4	2.9	0.5	8.5	7.3	1.2
Service industries	6.4	4.1	2.3	3.7	2.4	1.2	9.1	6.1	3.1
Transportation, communication and other utilities	5.8	4.2	1.7	3.6	2.8	0.8	9.0	7.1	1.9
Trade	5.4	3.5	2.0	2.9	2.0	0.9	7.4	5.0	2.4
Finance, insurance and real estate	6.4	3.7	2.8	3.7	2.0	1.7	9.3	5.1	4.2
Services	6.6	4.1	2.5	3.8	2.4	1.4	9.6	6.1	3.5
Public administration	8.0	5.5	2.5	4.3	3.1	1.2	10.8	7.8	3.0
Occupation									
White-collar workers	6.3	3.9	2.4	3.5	2.2	1.3	8.8	5.5	3.3
Managerial and professional	5.9	3.5	2.4	3.2	1.9	1.3	7.9	4.7	3.2
Clerical	7.5	4.5	3.0	4.2	2.4	1.8	10.4	6.0	4.4
Sales	4.9	3.1	1.8	2.7	1.8	0.9	6.9	4.6	2.3
Service	6.1	4.5	1.7	4.0	3.1	0.9	10.0	7.8	2.2
Blue-collar workers	6.7	5.1	1.7	4.2	3.6	0.6	10.6	9.0	1.5
Primary	5.0	3.6	...	3.1	2.6	...	7.7	6.6	...
Processing, machining and fabricating	7.4	5.6	1.9	4.6	3.9	0.7	11.6	9.8	1.8
Construction trades	5.9	4.4	1.5	3.7	3.3	0.4	9.3	8.2	1.1
Transport	5.7	4.3	1.4	3.9	3.3	0.6	9.8	8.3	1.5
Material handling and other crafts	7.4	5.7	1.7	4.5	3.9	0.6	11.2	9.7	1.5

Source: Labour Force Survey

* Incidence = (no. of workers absent ÷ total employed) x 100. Inactivity rate = (no. of hours absent ÷ no. of hours usually worked) x 100. Days lost per worker = inactivity rate x no. of working days in year (250 in this study).

Data source, coverage, definitions and measurements

Data source

This study is based on Statistics Canada's Labour Force Survey (LFS) annual average data.

Coverage

Covered in this study are the 8.7 million **full-time paid workers** holding one job in any given week in 1990. Excluded are part-time paid workers, because their work schedules generally permit more opportunity to attend to personal or family demands than full-time workers. Self-employed and unpaid family workers are also excluded because they generally control their work schedules. Multiple jobholders are excluded because, using LFS data it is technically impossible to allocate time lost, and the reason, to the various jobs.

Definitions

Absences from work for **personal reasons** are split into two components in the LFS: "absences due to own

illness or disability," and absences due to "personal or family responsibilities." These two types of absences represented about a third of all work time lost every week in 1990 among full-time paid workers. Vacations are not counted.

Measures

Three measures of absence are used in this study:

The **incidence** is the percentage of full-time paid workers reporting some absence in any given week of the year. In this measure, the length of work absence – whether an hour, a day, or the full week – is irrelevant.

The **inactivity rate** shows the hours lost as a proportion of the scheduled or "usual" weekly hours of all full-time paid workers. It takes into account both the frequency and length of absence.

Days lost per worker in the year is derived from the second measure, and is calculated by multiplying the inactivity rate by the estimated number of working days in the year (250 in this study).

averaged 5.9 days in banks and other financial institutions, and 5.3 days in health and social services. In these two industries, about twice as many days were lost for these reasons on average in 1990 as in all industries combined (2.7 days). In health and social services, the stresses associated with the jobs and the peculiarities of the working arrangements, such as extended hours, shift work, and greater exposure to illness may also have contributed to raise the number of days lost due to illness or disability (8.9 days per worker in 1990).

Compared with 1987, every major industry, except transportation, communication and other utilities, recorded a greater incidence of personal absence in 1990, as well as a higher inactivity rate and an increase in the number of days lost per worker. In transportation, communication and other utilities, these absence indicators remained unchanged from 1987.

Variations by occupation

Workers in "white-collar" occupations, as a group, continued to report lower absence levels than "blue-collar" workers in 1990 (Table 2). Workers in both groups saw their

absence levels rise between 1987 and 1990, but the gap narrowed due to a greater number of absences related to personal or family responsibilities among white-collar workers.

In 1990, about 6.3% of white-collar workers missed work for personal reasons for all or part of a typical week, for an average of 8.8 days lost per worker per year. In contrast, 6.7% of blue-collar workers reported an absence each week, and the resulting workdays lost amounted to 10.6 days per worker during the year. Not surprisingly, 85% of days lost among blue-collar workers resulted from illness or disability, compared with only 63% among white-collar workers.

Among white-collar workers, the lowest number of days lost in 1990 was in sales occupations (6.9 days) followed by managerial and professional occupations (7.9 days per worker). Workers in clerical jobs reported the greatest number of days lost (16.4 days). For blue-collar workers, the lowest number was found in primary occupations (7.7 days), while workers in processing, machining and fabricating had the highest (11.6 days).

Variations by province

Absence levels vary by province. The tendency to miss work, as well as the amount of work time lost for personal reasons increased in all provinces between 1987 and 1990, except British Columbia where they fell. Full-time paid workers in Manitoba continued to exhibit the highest work absence incidence in 1990 (7.6%), while workers in the province of Saskatchewan (5.8%) showed the least tendency to miss work. In terms of time lost, however, Quebec workers remained the most likely to miss workdays for personal reasons (10.5 days in 1990 versus 9.8 days in 1987), with virtually all the growth in days lost caused by absences due to personal or family responsibilities. Workers in Alberta and Saskatchewan continued to record the lowest number of workdays missed (7.3 and 8.0 days respectively in 1990).

Conclusion

Over the years, workers across the country have negotiated contract clauses improving their leave entitlements for personal reasons. At the same time, more women with children have entered the labour force. It is therefore difficult to estimate how much of the overall rise in absence levels is due to better entitlements or greater usage, and how much is due to the increased presence of dual-earner families and single parents in the workforce.

Time lost from work on account of illness or disability has changed very little over the past 14 years (oscillating around 6.5 days per year among full-time paid men workers, and around 7 days among women workers). Several factors may have contributed to slow the growth of work absences due to illness or disability. Notable changes include corporate programs designed to improve health (such as drug and alcohol abuse control programs, and the provision of smoke-free working environments), government regulations relating to working conditions, and a growing awareness on the part of workers, and the population at large, of the importance of a healthy lifestyle.

Days lost from work for personal or family-related responsibilities, however, have almost tripled over the same period. But this increase appears to largely reflect the fact that more and more mothers (especially with preschool children) are joining the paid workforce. For many working couples and single parents, the challenge of effectively balancing work and family responsibilities remains a problem. But even if there was a more equitable sharing of family responsibilities between working parents, the reduction of overall absenteeism would require the combined efforts of employers, employees and society at large. □

A data set containing national and provincial results spanning the 1979-1991 period can be obtained either on paper or IBM-compatible computer diskette at a cost of \$50. Requests should be addressed to the author.

Update for 1991

Absence rates of full-time paid workers by sex, industry and occupation*

	Incidence			Inactivity rate			Days lost per worker in year		
	Total	Illness or disability	Personal or family responsibilities	Total	Illness or disability	Personal or family responsibilities	Total	Illness or disability	Personal or family responsibilities
	%	%	%	%	%	%	days		
Canada	6.2	4.1	2.0	3.8	2.6	1.1	9.4	6.6	2.8
Men	4.8	3.7	1.1	2.8	2.4	0.4	7.0	6.1	0.9
Women	7.9	4.7	3.3	5.1	2.9	2.2	12.8	7.2	5.6
In families:									
With children	9.2	4.5	4.7	6.4	2.8	3.6	16.0	7.1	9.0
With preschoolers	17.9	4.7	13.2	14.4	2.9	11.6	36.1	7.2	28.9
All others**	6.5	4.9	1.6	3.7	2.9	0.7	9.2	7.3	1.9
Industry									
Goods industries	6.2	4.4	1.7	3.9	3.1	0.8	9.7	7.7	2.0
Agriculture	3.9	...	...	2.1	...	...	5.3	...	...
Other primary	5.7	4.2	1.5	3.7	3.1	0.7	9.3	7.6	1.6
Manufacturing	6.7	4.8	1.9	4.2	3.3	0.9	10.5	8.3	2.2
Construction	4.9	3.7	1.2	3.1	2.6	0.5	7.8	6.6	1.2
Service industries	6.2	4.0	2.2	3.7	2.4	1.3	9.3	6.1	3.2
Transportation, communication and other utilities	6.0	4.4	1.6	3.9	3.0	0.8	9.7	7.6	2.1
Trade	5.2	3.4	1.9	3.0	2.0	1.0	7.4	5.0	2.4
Finance, insurance and real estate	5.8	3.2	2.6	3.4	1.7	1.6	8.4	4.4	4.1
Services	6.4	4.1	2.3	4.0	2.5	1.5	9.9	6.2	3.7
Public administration	7.4	5.0	2.4	4.2	2.9	1.3	10.5	7.3	3.2
Occupation									
White-collar workers	6.0	3.7	2.3	3.5	2.2	1.4	8.8	5.4	3.4
Managerial and professional	5.8	3.5	2.2	3.3	1.9	1.3	8.1	4.9	3.3
Clerical	7.3	4.2	3.0	4.3	2.4	1.9	10.8	6.0	4.8
Sales	4.7	3.0	1.7	2.7	1.8	0.9	6.8	4.5	2.3
Service	5.8	4.1	1.7	3.8	2.8	1.0	9.5	7.0	2.5
Blue-collar workers	6.5	5.0	1.5	4.2	3.6	0.6	10.6	9.1	1.5
Primary	4.7	3.3	1.4	3.0	2.3	0.6	7.5	5.9	1.6
Processing, machining and fabricating	7.2	5.5	1.7	4.6	3.9	0.7	11.5	9.8	1.7
Construction trades	5.5	4.4	1.1	3.7	3.3	0.4	9.2	8.2	1.0
Transport	5.9	4.9	1.0	4.2	3.8	0.4	10.5	9.4	1.1
Material handling and other crafts	6.8	5.3	1.5	4.6	3.9	0.7	11.5	9.9	1.6

Source: Labour Force Survey

* Incidence = (no. of workers absent ÷ total employed) x 100. Inactivity rate = (no. of hours absent ÷ no. of hours usually worked) x 100. Days lost per worker = inactivity rate x no. of working days in year (250 in this study).

** Includes unattached individuals and persons living in families with no children.

Note

¹ The inclusion of maternity leave (certainly not an absenteeism factor) in the LFS "personal or family responsibilities" category no doubt contributes to the very high absence levels found among working women with preschool children. However, limiting the analysis

to only short-term (part-week) absences also revealed that working women with preschool children lost more than twice as many work days due to "personal or family responsibilities" than working women without preschool children.

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What's new?

Just released

Report on jobs in service industries soon available

The variety of jobs available in the service sector of the Canadian economy runs from one extreme to another: at one end are lawyers and computer specialists, at the other are dishwashers and fast food workers. *Quality of work in the service economy*, an analytical report based on the 1989 General Social Survey, explores a whole range of work experiences to determine how stark this breakdown of "good jobs" and "bad jobs" really is.

Of the five chapters, those of particular interest are: non-standard forms of work; extrinsic, or remunerative, work rewards – for example, pay, benefits and promotions; and intrinsic, or psychological, work rewards – for instance, job satisfaction, and the match between educational qualifications and job requirements.

Some highlights of the report show that:

- Of the 8.8 million Canadians aged 15 to 64 working in services, one-third had jobs in retail trade and other consumer services (such as food and beverage, accommodation and recreational services) which offer fewer work rewards and have lower skill requirements.

- 57% of employees in service industries agreed they had good promotion and career opportunities, as did 56% of employees in other industries; 32% of service workers had had a promotion in the previous five years, slightly less than the 36% of employees in other industries.
- Although 12% of workers in other industries expected to lose their jobs in the next year, only 7% of service workers were similarly pessimistic.
- 55% of service workers and 52% of workers in other industries strongly agreed that they are free to decide how to do their work; but a slightly higher proportion of service workers (47% compared with 43%) said their job requires a high level of skill.
- 57% of service workers reported that they are very satisfied with their job, compared with slightly less than 54% of workers in other industries.

(For more extensive analysis, see "Non-standard work arrangements," *Perspectives*, Winter 1991).

Data were obtained from the Cycle 4 General Social Survey (GSS), conducted in January and February 1989. The GSS Cycle 4 collected information from over 9,000 Canadian adults about their educational and employment histories, plans to further

their education and/or careers, job satisfaction and other employment rewards, experience with new technologies in the workplace, and retirement plans.

Quality of work in the service economy (Catalogue 11-612E, No. 6), is available for \$40 from Publication Sales, Statistics Canada, Ottawa K1A 0T6, or fax (613) 951-1584. □

New publication on government payrolls

The first annual report on *Public sector employment and remuneration, 1990/91* has recently been published. The report includes data for all three levels of government as well as government business enterprises for the 1986 to 1991 period.

The report covers 1.5 million public sector employees. Institutions representing approximately 1.1 million workers are excluded – among them lay, religious and municipal hospitals, various health and social service institutions in Quebec, local school boards and local government business enterprises. However, full coverage of the public sector is expected in the next annual report.

Public sector employment and remuneration, 1990/91 includes charts, tables and a number of brief analytical notes on various aspects of government in Canada. It also contains a detailed discussion of concepts and the relationship between these data series and those of federal and provincial Public Service Commissions, Treasury Board and the System of National Accounts.

Some highlights of the report show that:

- Total government employment, excluding business enterprises, averaged 1.2 million during the fiscal year 1990-91,

up 1.6% from 1989-90. Federal employment rose 1% (a less rapid increase than that recorded for other levels of government) mainly due to hiring related to the Goods and Services Tax.

- Federal employment accounted for 31% of total government employment in 1990-91, while provincial and territorial governments accounted for 41% and local governments for 28%.
- Total government remuneration, excluding business enterprises, was just over \$42 billion, a 9% increase over 1989-90. At 36%, the federal share of total remuneration was larger than its share of employees.
- Since the mid-1970s, government's share of employment in Canada has declined, from a peak of 11.4% in 1977-78 to 9.7% in 1990-91. Local and provincial/territorial government employment have each grown by about 40% since 1974-75, while federal employment levels have dropped 6%.
- The number of women working in the federal public service has grown relatively rapidly in recent years, showing gains in professional and managerial jobs. However, many remain concentrated in lower-paying jobs, and in 1990, half of all female federal employees were in the administrative support category.

The new annual publication replaces all quarterly reports previously produced by Public Institutions Division. *Public sector employment and remuneration, 1990/91* (Catalogue 72-209) is available for \$35 from Publication Sales, Statistics Canada, Ottawa K1A 0T6, or fax (613) 951-1584. □

Trends in Canadian population and international immigration analysed

The new edition of *Current Demographic Analysis*, released at the end of the year, finds that marriage and family may be making a comeback. In part one of this second annual review of demographic trends across the country, analysis of the Canadian population shows that:

- At 1.4%, Canada's rate of population growth was the second highest in the industrialized world (Australia was first); much of this increase can be attributed to immigration.
- The province recording the fastest growth was British Columbia (28 per 1,000), while Alberta reported the second highest growth (21 per 1,000); however, the province that attracted the largest number of new Canadians was Ontario.
- Nuptiality (the marriage rate) is increasing, mainly due to first marriages among single people, rather than remarriages among those who are divorced.
- Fertility is rising, with a marked growth in first births; in Quebec, there was also an increase in the number of second births.

Part two of *Current Demographic Analysis* is dedicated to an examination of international migratory movement since the end of World War II. Among the timely subjects discussed are:

- The brain drain: there are two sides to the story.
- Refugees: there were 15 million refugees in 1989, and the countries to which they fled were often the ones least able to help.

- Migrant workers: their contribution to the economy of the home country.
- Immigrants' country of origin: why fewer immigrants come from Europe and more come from Asia and Latin America.
- North-south tensions: the complex reasons underlying emigration from developing countries.
- Understanding these issues can help Canadians better understand the complexities of the country's immigration policy.

Current Demographic Analysis: Report on the demographic situation in Canada 1991 (Catalogue 91-209E) is available for \$26 from Publication Sales, Statistics Canada, Ottawa K1A 0T6, or fax (613) 951-1584. □

New database estimates literacy skills for small areas

The 1989 Survey of Literacy Skills Used in Daily Activities (LSUDA) found that 12% of Canadian adults had a very limited ability to meet day-to-day reading requirements, and another 18% could read only relatively simple texts. But literacy problems are often a very localized phenomenon, and the LSUDA results are available only at the national and provincial level. Now, however, a new database developed from the LSUDA can be used to estimate literacy levels for small geographic areas.

The LSUDA identifies four reading levels, with Level 1 representing the most limited readers and Level 4 the most proficient. (For a more complete description of the LSUDA, see "Sources," *Perspectives*, Summer 1990.) Using the estimation methodology for small areas, literacy

profiles can be prepared for the adult population in Federal Electoral Districts, Census Divisions and Census Sub-divisions. Demographic and socio-economic characteristics covered in the profiles include: age group, sex, level of educational attainment, income and immigrant status.

Consider the following literacy profile for the federal electoral district of Selkirk, Manitoba:

- 57% of the population have reading skills sufficient to meet everyday literacy requirements (level 4), compared with the national average of 63%.
- Level 4 reading abilities are highest among people aged 25 to 34 (70%) and lowest among those aged 55 to 64 (27%).
- 64% of high school or trade school graduates have level 4 skills, compared with the national average of 70%; meanwhile, 13% of adults with less than nine years of formal schooling exhibit level 4 proficiency, marginally higher than the national average of 12%.

The small area literacy estimation methodology applies the statistical relationships evident in the LSUDA results to demographic estimates from the 1986 Census of Population that are strongly correlated with literacy ability. This allows information about literacy levels to be "transferred" to the Census database, and then broken down into Census geographic areas. Several key assumptions underlie the model: first, that population characteristics, especially the crucial variables of age and education, can predict literacy abilities; second, that the relationship between population characteristics and literacy skills holds across all regions of Canada; and third, that the results of the LSUDA (conducted in

1989) are reasonably stable over time, and can be applied to Census data collected in 1986.

Estimates of literacy skills for small areas can be produced on a cost-recovery basis (approximately \$25 per area). For information, contact Scott Murray, Special Surveys Group, at (613) 951-9476; or fax (613) 951-0562. □

Economic Council carries out research on major economic issues

The Economic Council of Canada is a federally funded research institute charged with analysing medium- and long-term trends that will affect the Canadian economy. One of its principal duties is to recommend to government appropriate policy to meet the challenges it has identified; another is to cultivate extensive contacts with universities, other research institutes and government organizations to exchange information and conduct joint research projects. Describing itself as an independent policy adviser, it contributes to public debate as an "expert consultant," thus discharging the third of its responsibilities – to inform and educate the public about important economic issues. To fulfill this tripartite mandate, the Council devotes almost all of its resources to research, the results of which are supported by an active publishing program.

The Council disseminates a large volume of studies, reports, working papers on selected themes, and conference proceedings. Among the working papers now available are several that address long-term unemployment, sectoral labour mobility, wages and education. Other publications cover subject matter that ranges from financial markets and new technology, to taxation, trade and immigration.

Recent studies and reports that may interest *Perspectives* readers are: Good jobs, bad jobs – Employment in the service economy (1990); Structural changes and the adjustment process – Perspectives on firm growth and worker turnover (1990); Two steps forward – Human resource management in a high-tech world (1990), (reviewed in *Perspectives*, Winter 1990); New faces in the crowd – Economic and social impacts of immigration (1991); Adjustment to international competition – Short-run relations of prices, trade flows and inputs in Canadian manufacturing industries (1990); and Managing adjustment – Policies for trade-sensitive industries (1988).

The Council also produces a small number of regular publications, including:

Annual review. Projects trends over the medium term, identifies international conditions that affect the Canadian economy, makes policy proposals. Written for non-specialists as well as economists, it makes extensive use of graphs and charts. Over several chapters, the report develops the main theme and then concludes with policy suggestions. Appendices address very specific topics.

Summary. Annual. Describes the main findings and policy proposals of the Annual review.

Au courant. Quarterly. Condenses main findings of research reports and discussion papers by Council members. Outlines upcoming projects and subjects proposed for further research. Lists recently released and newly available reports, studies and working papers.

Reports from the Economic Council of Canada are available from bookstores that sell government publications, or from Canada Communications Group – Publishing, Ottawa K1A 0S9. To obtain more information, catalogues of working papers

or other publications, call Publications, at (613) 952-2138, or fax (613) 952-2171. □

New data guide introduces readers to a wealth of statistical information

The *Labour market and income data guide* describes some of the most comprehensive and useful surveys conducted by Statistics Canada. Several important administrative data sources are also covered. The information encompasses a wide array of topics that includes employment, occupation and industry, wages and salaries, union membership, unemployment insurance, family expenditures, absence from work, demand for labour, work injuries, pension plans, and discouraged workers.

The *Data guide*, which grew out of the successful prototype "Understanding labour market data," generally devotes one to two pages to each data source, noting:

- Purpose and frequency of data collection.
- Size, characteristics and response rate of the sample population.
- Type of labour market and/or income information collected.
- Geographic and demographic detail provided.
- Reference period and release date.
- Advantages of the data, such as comparability with other data series and timeliness.
- Where, and in what format, the data are available (for example, regular publications, special reports, or microdata tapes).

In addition to covering regular surveys like the Labour Force Survey (LFS), the Survey of Employment, Payrolls and Hours, the *Data guide* mentions special surveys of related interest (many conducted as supplements to the LFS) – for example, the 1990 Adult Education and Training Survey, the National Child Care Survey and the Survey of 1986 Graduates.

The *Data guide* also provides case studies to demonstrate how to select the data most suitable for particular applications. And each data source listing includes a telephone number to call should users want more information.

The *Labour market and income data guide* is available upon request from Suzanne David, at (613) 951-4628; or fax (613) 951-0562. □

Update on unemployment by occupation

In "Unemployment – occupation makes a difference" (*Perspectives*, Winter 1991), it was reported that at the onset of the recent recession, the impact of the economic decline was not spread evenly across the labour market.

The study divided the labour force into four quartiles of occupations, ranked according to their average unemployment rate in 1989. It compared the first nine months of the recession with the same period of the preceding year and showed that employment dropped almost 7% in the fourth or "worst-off" quartile of the labour force, whereas it rose 6% in the first quartile grouping the most favourable occupations (those with the lowest unemployment rates).

Since that article was published, the recession has continued, and the picture has changed somewhat. By the end of 1991, the largest year-to-year employment drops were

no longer among the "highest unemployment" occupations, but instead had moved to the middle-ranking occupations which showed a year-over-year employment decline of 1% to 3%. Furthermore, in the first quartile of the labour force, employment growth slowed to 0.6% between the fourth quarters of 1990 and 1991.

By the end of 1991, the unemployment rate in the "best" (lowest 1989 unemployment) quartile had risen year-over-year from 3.8% to 4.6%. For the "least favoured" quartile of occupations it increased from 16.7% to 18.4%.

Therefore, even though the recession affected a broader range of the workforce as it continued through 1991, people in better-off occupations continued to have a substantial advantage over workers in less secure occupations.

For more information, contact Dave Gower at (613) 951-4616.

Note: The article "Unemployment – occupation makes a difference" contains a labelling error. In Table 1, "Mechanics" (listed at the top of quartile 4) was interchanged with "Other fabricating" (quartile 2). Similarly, "Mechanics" in Table 3 should have read "Other fabricating." The numbers are correct; only the labels were misplaced. □

New surveys

January 1992: Adult Education and Training Survey

Sponsored by Employment and Immigration Canada, the 1992 Adult Education and Training Survey (AETS) was conducted as a supplement to the January 1992 Labour Force Survey in about 50,000 households.

Emphasis was placed on job and employment related training, although non-employer related education was also explored. Much of the information gathered is similar to that collected by the 1990 AETS (reference period December 1989 to November 1990), for example: subject matter and duration of the most recent course taken, who paid tuition and/or other incidental expenses, location of the course (work place, educational institution), firm size, and job tenure of those adults who are employed. (For more information about the 1990 Adult Education and Training Survey, see "Sources," *Perspectives*, Winter 1990 and Autumn 1991.)

In addition to this baseline information, the 1992 AETS collected data on:

- Total personal income.
- Membership in a union or collective bargaining unit.
- Informal on-the-job training.
- Precise nature of financial and non-financial assistance offered by employers.
- Method of instruction, including use of television, correspondence or computers as instructional tools.
- Applicability of training to present job.
- Who initiated training (self, employer, union or other).

The survey results will help policy makers assess the level of employer involvement in worker training, as well as provide an indication of the type of skills now demanded of employees. They will also enrich the knowledge gained about adult education during the 1980s from similar

surveys conducted in 1984, 1986 and 1990. However, the 1992 AETS differs from these other surveys in several important respects. Direct data comparison is therefore inadvisable.

Preliminary results are expected in late summer 1992. For more information, contact Stephen Arrowsmith at (613) 951-0566. □

January to December 1992: General Social Survey Cycle 7 (Time Use)

The General Social Survey (GSS) Cycle 7 on time use entered the field in January 1992, and will continue until the end of the year. About 800 respondents will be contacted each month. The information being collected about Canadian adults' daily activities can be grouped into four main categories: paid work and education, unpaid work (for example, child care, household duties, volunteer work), free time, and personal care time. In addition to the time use data, information will be collected on participation in sports, cultural activities and unpaid help given to others.

Using a diary system, respondents chronicle their activities for a 24-hour period, and provide details about:

- The activity.
- Duration of the activity.
- Location (for example, own home or office).
- Who else is there at the time (for example, spouse or friends).

GSS Cycle 7 repeats much of the content of the 1986 GSS, which was the first national time use survey ever conducted (GSS Cycle 2). It does, however, provide

some additional information – for instance, main activity of spouse or partner. (The results of GSS Cycle 2 are published in *Where does time go?* Catalogue 11-612E, No. 4.)

Data from time use surveys allow researchers to learn how people trade off activities, how time is used at different stages of the life cycle, and, by extension, to assess the comparative importance people place on a variety of daily activities. As such, the survey results offer a unique opportunity to discover how the conflicting day-to-day demands of work and family responsibilities are juggled, because the actual time spent on those activities is recorded. The data also help analysts measure "household production," often the only way to quantify the value of the unpaid work women do in the home. (Data on patterns of Canadian family life were also collected in the 1989 GSS Cycle 5. For information, see "Sources," *Perspectives*, Summer 1991.)

For more information about GSS Cycle 7, call Ghislaine Villeneuve at (613) 951-4995; for more information about the GSS program, see "Sources," *Perspectives*, Spring 1990, or contact Doug Norris at (613) 951-2572. □

March 1992: Survey of Job Opportunities

This supplement to the Labour Force Survey (LFS) identifies jobless people who say they want a job but are not seeking one. (Because

these people are not actively searching for work, they are not counted in the officially published LFS unemployment figures.) Among the objectives of the survey is the estimation of the number of Canadians in this situation, the kind of work they want, and the reasons why they have stopped looking for it.

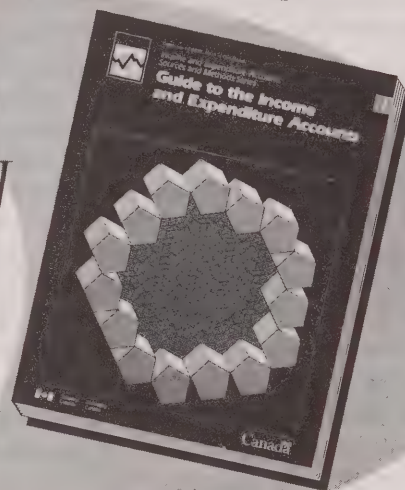
The reasons why they are not searching for work fall into two basic categories – labour-market related, and personal. Labour-market related reasons include: awaiting recall following a layoff, waiting for replies to job applications, or belief that no jobs are available in their area or suited to their skills. (People in this last group are the so-called "discouraged workers.") Personal reasons are: going to school, child or family responsibilities, own illness or disability, or no longer interested in finding work.

As well as being asked why they are not looking for work, respondents are asked:

- Whether they want work lasting more than six months, and a full-time or part-time job.
- If they are willing to move if offered a suitable job in another area or province.
- Whether they expect to be working in the next six months.

Results from the Survey of Job Opportunities will be available in mid-April 1992. For more information, contact Ernest B. Akyeampong at (613) 951-4624. □

Your guide to understanding Canada's economy



The structure of Canada's economy can seem difficult to understand. What do we produce? How do we produce it? Who buys it, and who sells it? Statistics Canada's new publication, the GUIDE TO THE INCOME AND EXPENDITURE ACCOUNTS, addresses these puzzling issues and explains how the Income and Expenditure Accounts (IEA) will enrich your understanding of our economic system.

At the centre of macroeconomic analysis and policy-making in Canada, the IEA show how various groups like households, businesses and governments raise revenue and expend it to purchase goods and services. Together the IEA afford an opportunity to assess the performance of the national and provincial economies.

Developed for both economic specialists and general users, the *Guide* is the first in a series that will fully document Canada's system of national and provincial accounts. In four concise chapters, the *Guide* examines a comprehensive range of topics, including:

- Who uses the IEA and for what purposes
- The role of the IEA within Canada's System of National Accounts (SNA)
- The impact of the Historical Revision of 1986
- Why GDP, rather than GNP, is the central aggregate of the system
- The significance of the Sector Accounts to understanding how a modern economy functions
- The importance of Constant Price Estimates to both the IEA and the SNA
- How the GDP estimates are calculated
- How the quality and reliability of the IEA estimates are assessed

The *Guide* also presents dozens of tables to clearly illustrate theoretical examples and to help you fully understand technical aspects of the IEA.

For business strategists, students, economic analysts and current users of SNA data, the *Guide* is a must. Order the *Guide to the Income and Expenditure Accounts* (Cat.# 13-603E, No.1) for only \$35 in Canada, US\$42 in the United States and US\$49 in other countries. Call toll-free 1-800-267-6677 and use your Visa or MasterCard, fax your order to 1-613-951-1584, or write to:

Publication Sales,
Statistics Canada,
Ottawa, Ontario K1A 0T6

Key labour and income facts

The following selection of labour and income indicators is drawn from 12 sources and includes published and unpublished annual data. These indicators appear in every issue.

The latest available annual data are always shown; as results become available, the indicators are updated so that every issue contains new data. An indicator updated since the last issue is "flagged" with an asterisk.

Data sources

The indicators are derived from the following sources:

- | | |
|-----------|--|
| 1-11 & 15 | Labour Force Survey
Frequency: Monthly
Contact: Doug Drew (613) 951-4720 |
| 12-14 | Labour Market Activity Survey
Frequency: Annual
Contact: Richard Veevers (613) 951-4617 |
| 16 | Absence from Work Survey
Frequency: Annual
Contact: Denis Lefebvre (613) 951-4600 |
| 17 | Workers' Compensation statistics
Frequency: Annual
Contact: Joanne Proulx (613) 951-4040 |
| 18 | Help-wanted Index
Frequency: Monthly
Contact: André Picard (613) 951-4045 |
| 19-21 | Unemployment Insurance statistics
Frequency: Monthly
Contact: André Picard (613) 951-4045 |

- | | |
|-------|---|
| 22-29 | Survey of Employment, Payrolls and Hours
Frequency: Monthly
Contact: Howard Krebs (613) 951-4063 |
| 30-32 | Labour Canada, major wage settlements
Frequency: Quarterly
Contact: Sulaiman Khan (819) 953-4234 |
| 33-35 | Labour income (Revenue Canada-Taxation-based statistics, Survey of Employment, Payrolls and Hours and other surveys)
Frequency: Quarterly
Contact: Ed Bunko (613) 951-4048 |
| 36-46 | Survey of Consumer Finances
Frequency: Annual
Contact: Kevin Bishop (613) 951-2211 |
| 47-53 | Household Facilities and Equipment Survey
Frequency: Annual
Contact: Penny Barclay (613) 951-4634 |
| 54-55 | Administrative data
Frequency: Annual
Contact: Customer Services (613) 951-9720 |

Notes on the method of deriving certain indicators are given at the end of the table.

Additional data

The table provides at the most two years of data for each indicator. A longer time series (generally ten years) for this set of indicators, on paper or diskette, can be obtained on request, at a cost of \$50. (A more extensive explanation of the indicators is also available.) This ten-year data set is updated annually in April. For information, contact Jamie Darch at (613) 951-0177.

Key labour and income facts

No.	Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
Labour market							
* 1 Labour force	'000	1990	13,681	242	65	424	331
		1991	13,757	241	64	422	327
Change	%		0.6	-0.4	-1.7	-0.4	-1.0
* 2 Participation rate	%	1990	67.0	56.0	66.0	62.1	59.8
		1991	66.3	55.3	65.1	61.3	58.6
* 3 Employed	'000	1990	12,572	201	55	379	291
		1991	12,340	197	53	371	286
Change	%		-1.8	-2.0	-3.9	-2.1	-1.7
* 4 Proportion of employed working part time	%	1990	15.4	11.3	15.5	15.8	14.6
		1991	16.4	12.3	16.2	17.0	15.3
* 5 Proportion of part-timers wanting full-time work	%	1990	22.4	52.3	35.5	33.1	37.9
		1991	27.7	59.1	39.3	38.6	39.8
* 6 Unemployed	'000	1990	1,109	41	10	45	40
		1991	1,417	44	11	51	42
Change	%		27.7	7.4	11.2	13.9	4.0
* 7 Official unemployment rate	%	1990	8.1	17.1	14.9	10.5	12.1
		1991	10.3	18.4	16.8	12.0	12.7
Alternative measures of unemployment							
8 Unemployed 14 or more weeks as a proportion of the labour force	%	1989	2.9	6.8	5.3	3.8	4.9
		1990	3.1	8.3	5.6	4.2	4.6
9 Unemployment rate:							
– of persons heading families with children under age 16	%	1989	6.8	15.6	14.2	9.2	11.8
		1990	7.3	16.5	15.3	9.3	11.2
– excluding full-time students	%	1989	7.4	15.8	14.6	9.8	12.4
		1990	8.0	17.2	15.4	10.5	12.0
– including full-time members of the Canadian Armed Forces	%	1989	7.5	15.7	13.9	9.6	12.3
		1990	8.1	17.0	14.7	10.2	11.9
– of the full-time labour force	%	1989	9.0	18.6	17.4	12.1	15.0
		1990	9.6	19.7	18.2	12.8	14.6
– of the part-time labour force	%	1989	9.7	15.8	8.2	12.3	14.4
		1990	10.1	15.6	7.6	12.9	13.5
– including persons on the margins of the labour force	%	1989	8.2	18.9	16.1	10.8	14.1
		1990	8.7	20.3	16.4	11.3	14.0
10 Underutilization rate based on hours lost through unemployment and underemployment	%	1989	9.5	19.3	17.8	12.8	15.6
		1990	10.2	20.3	18.5	13.5	15.4
11 Proportion unemployed 6 months or longer	%	1989	20.1	21.3	14.1	18.0	19.2
		1990	18.4	26.8	15.8	18.5	17.6

See notes at end of table.

Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
3,399	5,268	544	483	1,324	1,601	..	..	1990	'000	1
3,392	5,276	541	484	1,357	1,652	..	..	1991		
-0.2	0.2	-0.6	0.3	2.5	3.2	..	..		%
64.3	69.4	67.6	66.8	72.1	66.0	..	..	1990	%	2
63.4	68.3	66.9	67.1	72.5	66.4	..	..	1991		
3,055	4,937	505	449	1,231	1,469	..	..	1990	'000	3
2,987	4,770	494	449	1,246	1,489	..	..	1991		
-2.2	-3.4	-2.3	-0.1	1.2	1.4	..	..		%
13.8	15.8	18.2	17.1	15.0	16.7	..	..	1990	%	4
14.9	16.9	19.2	17.7	15.2	18.0	..	..	1991		
33.1	14.5	21.8	27.5	19.3	21.4	..	..	1990	%	5
36.7	21.8	29.7	31.8	21.3	25.7	..	..	1991		
345	331	39	34	93	132	..	..	1990	'000	6
405	506	48	36	111	163	..	..	1991		
17.6	53.1	21.0	5.5	19.7	23.6	..	..		%
10.1	6.3	7.2	7.0	7.0	8.3	..	..	1990	%	7
11.9	9.6	8.8	7.4	8.2	9.9	..	..	1991		
4.3	1.5	3.0	3.1	2.5	3.6	..	..	1989	%	8
4.5	2.0	2.8	2.5	2.2	2.9	..	..	1990		
										9
7.8	4.7	6.0	7.4	6.5	8.3	..	..	1989	%	
8.6	5.6	5.9	6.7	6.5	7.7	..	..	1990		
9.3	4.9	7.3	7.3	7.0	8.9	..	..	1989	%	
10.1	6.0	6.9	6.9	6.8	8.1	..	..	1990		
9.3	5.0	7.5	7.4	7.1	9.0	..	..	1989	%	
10.1	6.2	7.2	7.0	7.0	8.2	..	..	1990		
11.3	5.8	9.2	9.6	8.3	10.8	..	..	1989	%	
12.2	7.1	9.1	9.1	8.1	9.8	..	..	1990		
10.7	8.0	9.8	9.7	9.9	12.3	..	..	1989	%	
11.8	9.1	8.9	9.5	10.5	10.4	..	..	1990		
10.5	5.3	8.0	8.0	7.5	9.5	..	..	1989	%	
11.3	6.5	7.7	7.5	7.3	8.6	..	..	1990		
11.7	6.2	9.7	10.2	8.9	11.3	..	..	1989	%	10
12.6	7.7	9.7	9.8	8.7	10.4	..	..	1990		
27.0	13.2	20.6	20.4	17.4	20.6	..	..	1989	%	11
23.7	13.8	19.3	16.7	15.3	16.5	..	..	1990		

See notes at end of table.

Key labour and income facts

No.		Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
Other labour market indicators								
12	Employed at some time in the year, men, age 16 to 69	'000	1987	7,584	152	36	235	191
	– as proportion of male population age 16 to 69	%		86.5	80.9	87.8	82.2	81.6
		'000	1988	7,688	157	37	241	195
		%		86.6	82.6	88.1	83.7	82.3
	Employed at some time in the year, women, age 16 to 69	'000	1987	6,042	110	30	191	153
	– as proportion of female population age 16 to 69	%		67.1	57.9	71.4	63.0	63.0
		'000	1988	6,337	120	32	197	164
		%		69.7	62.2	74.4	64.6	66.9
13	Unemployed at some time in the year, men, age 16 to 69	'000	1987	1,497	59	11	59	59
	– as proportion of male population age 16 to 69	%		17.1	31.4	26.8	20.6	25.2
		'000	1988	1,366	51	11	89	55
		%		15.4	26.8	26.2	17.0	23.2
	Unemployed at some time in the year, women, age 16 to 69	'000	1987	1,345	46	9	55	48
	– as proportion of female population age 16 to 69	%		14.9	24.2	21.4	18.2	19.8
		'000	1988	1,247	44	10	49	43
		%		13.7	22.8	23.3	16.1	17.6
14	Full-time, full-year male paid workers	'000	1987	4,035	55	14	115	89
			1988	4,017	63	13	121	87
	Full-time, full-year female paid workers	'000	1987	2,528	36	11	74	52
			1988	2,597	35	11	76	60
15	Days lost per full-time worker per year through illness or for personal reasons	days	1989	9.4	9.6	8.1	8.6	9.6
			1990	9.4	10.1	7.3	9.1	9.3
*16	Proportion of paid workers absent two or more consecutive weeks because of illness or accident	%	1989	6.7	6.2	5.2	5.4	7.4
			1990	6.7	4.7	4.4	6.8	6.5
17	Workers receiving workers' compensation for time-loss injuries	'000	1988	618	10	2	11	12
	Change	%	1989	621	11	2	14	13
				0.5	6.2	0.6	23.9	8.0
18	Help-wanted index (1981 = 100)		1989	152	196			
			1990	115	164			

See notes at end of table.

Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
1,921	2,886	305	280	718	859	..	..	1987	'000	12
83.5	89.2	88.2	87.5	88.3	85.6	..	..		%
1,962	2,909	303	277	729	877	..	..	1988	'000	
84.7	88.4	87.3	87.4	88.5	85.4	..	..		%
1,434	2,367	264	219	592	682	..	..	1987	'000	
60.2	71.2	72.7	68.7	73.4	66.7	..	..		%
1,542	2,462	257	228	621	716	..	..	1988	'000	
64.4	72.9	72.2	71.9	75.7	68.5	..	..		%
434	432	57	42	150	193	..	..	1987	'000	13
18.9	13.3	16.5	13.1	18.5	19.2	..	..		%
400	404	53	43	128	172	..	..	1988	'000	
17.3	12.3	15.3	13.6	15.5	16.7	..	..		%
375	424	51	40	127	171	..	..	1987	'000	
15.7	12.8	14.0	12.5	15.7	16.7	..	..		%
362	361	51	39	114	173	..	..	1988	'000	
15.1	10.7	14.3	12.3	13.9	16.6	..	..		%
1,028	1,666	148	128	370	423	..	..	1987	'000	14
1,014	1,661	153	123	356	425	..	..	1988		
610	1,052	107	81	239	265	..	..	1987	'000	
638	1,087	104	79	248	259	..	..	1988		
10.2	9.6	8.8	8.6	8.2	8.4	..	..	1989	days	15
10.5	9.5	9.0	8.0	7.3	8.5	..	..	1990		
7.7	6.8	5.0	5.4	5.1	6.4	..	..	1989	%	16
7.5	6.7	6.4	5.8	5.2	6.8	..	..	1990		
218	208	23	15	43	73	..	1	1988	'000	17
219	201	22	14	45	80	..	1	1989		
0.3	-3.6	-4.4	-6.7	3.3	8.4	..	-3.7		%	
173	167	90			128	..	..	1989		18
129	111	80			117	..	..	1990		

See notes at end of table.

Key labour and income facts

No.	Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
Unemployment insurance							
19	Total beneficiaries	'000	1988 1,015	71	13	50	57
			1989 1,030	76	14	53	58
	Change	%	1.5	6.6	6.8	5.3	0.4
20	Total beneficiaries as a proportion of contributors	%	1988 7.9	28.7	21.2	12.4	17.6
			1989 7.8	29.9	21.7	12.7	17.1
21	Regular beneficiaries without reported earnings	'000	1988 780	58	10	38	47
			1989 785	61	10	39	47
	Change	%	0.6	5.7	5.8	1.6	-1.1
Earnings (including overtime) and hours							
22	Average weekly earnings in current dollars	\$	1989 486.87	465.80	400.82	432.86	442.80
			1990 512.79	484.61	419.63	458.50	463.45
	Change	%	5.3	4.0	4.7	5.9	4.7
23	Average weekly earnings in 1981 dollars	\$	1989 322.43	324.83	283.06	295.47	299.59
			1990 324.14	323.94	282.20	297.92	299.77
	Change	%	0.5	-0.3	-0.3	0.8	0.1
24	Average weekly earnings of salaried employees in current dollars	\$	1989 598.87	559.86	522.94	537.24	552.16
			1990 635.97	586.43	548.55	580.85	580.34
	Change	%	6.2	4.7	4.9	8.1	5.1
25	Average weekly earnings of salaried employees in 1981 dollars	\$	1989 396.60	390.42	369.31	366.72	373.59
			1990 402.00	392.00	368.90	377.42	375.38
	Change	%	1.4	0.4	-0.2	2.9	0.5
26	Average weekly earnings of hourly paid employees in current dollars	\$	1989 388.20	363.16	264.60	341.66	362.48
			1990 403.41	372.40	280.59	357.91	371.54
	Change	%	3.9	2.5	6.0	4.8	2.5
27	Average weekly earnings of hourly paid employees in 1981 dollars	\$	1989 257.09	253.25	186.86	233.22	245.25
			1990 255.00	248.93	188.70	232.56	240.32
	Change	%	-0.8	-1.7	1.0	-0.3	-2.0
28	Average weekly hours of hourly paid employees	hrs	1989 31.8	34.8	31.7	32.7	34.1
			1990 31.5	34.6	31.5	32.2	33.7
29	Average weekly overtime hours of hourly paid employees	hrs	1989 1.2	1.6	0.4	0.8	1.0
			1990 1.1	1.5	0.5	0.8	0.9
Major wage settlements							
30	Number of agreements		1989 438	7	4	15	5
			1990 486	11	1	7	17
31	Number of employees	'000	1989 983	11	3	19	12
			1990 1,129	18	-	15	28
32	Increase in base rate on annual basis	%	1989 5.3	5.7	4.7	5.5	4.5
			1990 5.8	7.5	5.8	6.3	6.0

See notes at end of table.

Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
323	216	35	29	78	139	2	2	1988	'000	19
337	214	35	29	78	134	2	2	1989		
4.3	-1.2	2.1	-0.7	-0.8	-3.4	3.6	-1.9		%	
10.2	4.2	7.1	7.5	6.5	9.9	9.8	4.8	1988	%	20
10.4	4.0	7.2	7.5	6.3	9.0	4.8	8.8	1989		
259	151	26	22	60	106	1	1	1988	'000	21
270	147	26	22	59	101	1	1	1989		
4.4	-2.7	1.2	-0.5	-1.4	-5.8	-2.5	-8.3		%	
472.82	509.08	445.08	425.99	484.47	491.63	585.91	663.86	1989	\$	22
502.02	535.78	462.78	445.80	509.86	515.91	612.22	705.48	1990		
6.2	5.2	4.0	4.7	5.2	4.9	4.5	6.3		%	
312.71	326.33	299.11	289.59	339.98	342.60	..	..	1989	\$	23
318.54	327.89	297.23	290.42	338.33	340.98	..	..	1990		
1.9	0.5	-0.6	0.3	-0.5	-0.5	..	..		%
564.69	631.12	562.52	558.45	617.83	594.35	713.95	728.63	1989	\$	24
602.37	670.17	590.77	581.86	655.15	628.93	747.27	776.47	1990		
6.7	6.2	5.0	4.2	6.0	5.8	4.7	6.6		%	
373.47	404.56	378.04	379.06	433.56	414.18	..	..	1989	\$	25
382.21	410.14	379.43	379.74	434.74	415.68	..	..	1990		
2.3	1.4	0.4	-0.2	0.3	0.4	..	..		%
387.87	403.25	345.85	309.83	356.00	412.73	439.74	568.71	1989	\$	26
406.93	415.59	356.20	327.33	373.65	432.05	446.27	610.01	1990		
4.9	3.1	3.0	5.6	5.0	4.7	1.5	7.3		%	
256.53	258.49	232.43	210.63	249.82	287.62	..	..	1989	\$	27
258.20	254.34	228.77	213.24	247.94	285.56	..	..	1990		
0.7	-1.6	-1.6	1.2	-0.8	-0.7	..	..		%
32.6	32.0	31.2	28.8	30.5	30.5	32.1	33.8	1989	hrs	28
32.4	31.4	31.2	28.7	30.2	30.3	35.2	35.5	1990		
1.0	1.3	0.9	0.8	1.5	1.1	1.9	3.4	1989	hrs	29
0.9	1.1	0.9	0.9	1.6	1.1	2.2	3.8	1990		
37	155	7	16	51	49	..	..	1989		30
94	201	14	8	55	29	..	..	1990		
209	237	10	21	83	106	..	..	1989	'000	31
395	393	14	20	103	29	..	..	1990		
5.3	6.4	4.6	2.9	3.9	7.0	..	..	1989	%	32
4.8	6.8	5.6	4.0	5.6	6.9	..	..	1990		

See notes at end of table.

Key labour and income facts

No.		Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
Labour income								
33	Labour income in current dollars	\$ million	1988	325.2	4.5	1.0	8.2	6.3
			1989	354.9	4.8	1.0	8.8	6.9
	Change	%		9.1	6.8	7.7	7.2	8.2
34	Labour income per employee in current dollars	\$	1988	30,300	26,300	22,400	25,600	25,400
			1989	32,300	26,700	23,500	26,800	27,000
	Change	%		6.6	1.5	5.0	4.7	6.3
35	Labour income per employee in 1981 dollars	\$	1988	21,100	19,000	16,400	18,300	18,000
			1989	21,400	18,600	16,600	18,300	18,300
	Change	%		1.5	-1.9	1.2	0.2	1.6
36	Net income from self-employment as a proportion of money income	%	1988	5.3	3.5	7.8	5.7	4.3
			1989	5.8	3.9	9.1	5.9	4.2
Earnings of full-time, full-year workers								
37	Average earnings of men working full time, full year	\$	1988	33,600	27,200	23,600	30,500	29,100
			1989	35,100	30,600	25,900	31,900	31,200
	Change	%		4.5	12.6	9.8	4.6	7.2
38	Average earnings of women working full time, full year	\$	1988	21,900	20,400	16,900	19,600	20,200
			1989	23,100	21,700	19,800	21,100	19,400
	Change	%		5.4	6.1	16.7	7.6	-3.8
39	Ratio of female-to-male earnings	%	1988	65.3	75.1	71.7	64.4	69.5
			1989	65.8	70.8	76.2	66.2	62.3
Family income								
40	Average family income	\$	1988	46,200	36,100	34,500	39,700	37,300
			1989	50,100	39,600	38,700	43,100	40,700
41	Median family income	\$	1988	41,200	32,900	30,700	36,400	33,300
			1989	44,500	35,700	34,500	37,600	36,300
42	Average income of unattached individuals	\$	1988	19,600	17,000	14,400	16,000	16,100
			1989	21,100	19,000	14,400	17,700	17,200
43	Median income of unattached individuals	\$	1988	15,000	12,900	12,000	11,300	12,100
			1989	16,600	14,700	11,700	12,400	13,000
44	Average family taxes	\$	1988	8,600	5,100	4,700	6,700	5,800
			1989	9,600	6,200	5,900	7,400	6,600
45	Average family income after tax	\$	1988	37,600	30,900	29,800	33,000	31,500
			1989	40,400	33,500	32,800	35,700	34,000

See notes at end of table.

Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
77.5	140.3	11.1	8.6	30.0	35.9	.4	1.0	1988	\$ million	33
83.2	154.7	11.7	9.0	32.6	40.3	.4	1.0	1989		
7.3	10.2	5.6	4.3	8.5	12.3	7.0	6.2			
29,200	32,400	26,600	25,000	29,700	30,300	1988	\$	34
30,800	35,100	27,700	26,500	31,100	32,000	..	..	1989
5.7	8.3	4.3	6.0	4.9	5.4	..	..	
20,100	22,000	18,700	17,700	21,700	22,100	1988	\$	35
20,400	22,500	18,600	18,000	21,800	22,300	..	..	1989
1.3	2.3	-0.4	1.5	0.7	0.9	..	..	
4.4	4.9	7.4	9.9	6.8	5.7	1988	%	36
4.4	6.4	5.7	10.8	5.6	5.9	..	..	1989
31,700	35,900	29,700	28,400	33,800	34,500	1988	\$	37
34,000	37,400	31,600	27,900	34,400	35,600	..	..	1989
7.1	4.2	6.3	-1.8	1.8	3.3	..	..	
20,900	23,300	20,200	19,200	22,100	21,300	1988	\$	38
21,200	25,200	20,700	20,400	22,800	22,600	..	..	1989
1.3	8.4	2.6	6.0	3.4	6.2	..	..	
65.9	64.8	67.9	67.5	65.3	61.8	1988	%	39
62.4	67.4	65.6	72.9	66.3	63.6	..	..	1989
41,300	52,800	43,100	40,400	46,300	45,300	1988	\$	40
44,900	57,300	46,600	43,000	49,700	49,400	..	..	1989
36,900	47,300	37,400	35,400	41,700	42,000	1988	\$	41
40,200	50,500	41,300	38,100	44,900	46,000	..	..	1989
17,400	21,700	17,100	17,100	20,500	21,000	1988	\$	42
18,300	24,100	19,200	18,700	20,900	22,300	..	..	1989
12,100	17,400	13,800	13,200	15,700	17,300	1988	\$	43
13,700	20,400	14,900	14,100	16,600	18,600	..	..	1989
7,900	10,100	7,700	7,000	8,300	8,100	1988	\$	44
8,900	11,400	8,600	7,700	9,200	9,300	..	..	1989
33,500	42,700	35,400	33,300	38,000	37,200	1988	\$	45
36,000	45,900	38,000	35,300	40,500	40,100	..	..	1989

See notes at end of table.

Key labour and income facts

No.	Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
46	Proportion below the low income cut-off (1978 base):						
- families	%	1988 1989	10.5 9.6	15.5 12.8	10.0 9.0	10.8 11.4	12.6 11.9
- unattached individuals	%	1988 1989	33.1 30.5	35.5 32.0	33.2 35.1	39.4 34.7	35.7 36.3
- persons (population)	%	1988 1989	13.1 12.2	16.7 14.5	12.3 11.6	13.4 13.4	14.5 13.8
- children (less than 16 years)	%	1988 1989	15.4 14.6	20.7 19.7	12.6 13.9	15.2 16.6	18.3 17.6
- elderly (65 years and over)	%	1988 1989	17.2 15.9	19.2 13.8	17.5 14.6	16.9 13.8	15.0 12.8
Households and dwellings							
47	Average household income	\$ 1988 1989	40,700 43,800	34,200 37,500	31,100 34,300	35,400 37,700	34,300 36,800
*48	Proportion of households with:						
- VCRs	%	1990 1991	66.3 68.6	67.6 67.8	62.2 59.6	66.7 67.8	64.0 66.5
- microwaves	%	1990 1991	68.2 73.5	56.6 65.0	57.8 63.8	67.9 72.4	66.8 72.5
- two or more automobiles	%	1990 1991	24.7 25.1	16.2 13.6	26.7 21.3	19.8 20.2	21.5 20.3
- vans and trucks	%	1990 1991	23.4 22.2	32.4 34.5	31.1 31.9	23.9 25.8	31.6 30.3
- air conditioners	%	1990 1991	24.4 26.7	... ...	... ...	3.5 3.7	5.7 6.4
*49	Proportion of owner-occupied dwellings	% 1990 1991	63.7 63.7	79.2 78.5	71.1 70.2	72.0 71.8	75.3 76.5
50	Proportion of all owner-occupied dwellings that are mortgage free	% 1989 1990	50.6 51.1	69.9 70.8	54.5 59.4	56.6 57.6	59.3 58.1
*51	Number of occupied dwellings in need of repair	'000 1990 1991	2,561 2,416	54 54	17 13	112 104	81 87
*52	Dwellings in need of repair as a proportion of all occupied dwellings	% 1990 1991	26.6 24.5	31.3 30.5	37.7 27.7	35.2 31.9	32.8 34.7
53	Median rent-to-income ratio	% 1989 1990	21 20	17 17	23 25	21 23	19 19

See notes at end of table.

Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
										46
13.5	7.5	11.1	13.6	10.7	10.1	..	..	1988	%	
11.4	7.0	11.0	12.6	11.0	9.7	..	..	1989	%	
42.7	26.9	33.5	29.3	30.8	30.6	..	..	1988	%	
41.0	23.5	30.0	30.4	30.7	25.2	..	..	1989	%	
16.8	9.5	14.8	16.8	13.8	13.2	..	..	1988	%	
15.1	8.8	14.5	16.1	13.9	11.7	..	..	1989	%	
17.2	11.9	19.7	22.6	16.9	15.2	..	..	1988	%	
15.2	11.3	21.5	22.3	16.8	13.7	..	..	1989	%	
25.2	12.6	16.0	13.4	15.6	18.4	..	..	1988	%	
30.7	9.7	11.0	10.7	14.4	12.5	..	..	1989	%	
36,000	46,900	37,000	35,100	41,200	39,100	..	..	1988	\$	47
39,200	50,600	40,000	37,100	43,800	41,800	..	..	1989	\$	
										48
63.2	69.0	63.1	60.6	71.6	64.0	..	..	1990	%	
64.9	71.0	66.3	64.3	72.6	68.8	..	..	1991	%	
65.5	68.2	68.3	74.9	76.9	68.3	..	..	1990	%	
70.6	73.8	75.1	78.6	80.2	74.0	..	..	1991	%	
21.6	26.5	22.2	25.1	29.7	26.7	..	..	1990	%	
21.4	27.4	26.0	23.1	28.8	27.5	..	..	1991	%	
13.8	20.5	29.1	37.2	37.7	32.3	..	..	1990	%	
12.8	18.2	27.0	40.9	38.3	30.7	..	..	1991	%	
13.3	44.9	43.8	32.1	6.9	6.1	..	..	1990	%	
15.2	48.0	45.0	32.3	10.1	8.5	..	..	1991	%	
55.2	65.6	67.8	70.7	65.8	64.2	..	..	1990	%	49
56.8	64.1	68.4	72.4	64.4	65.1	..	..	1991	%	
46.9	49.4	55.4	61.1	48.3	50.2	..	..	1989	%	50
46.5	50.6	56.3	58.9	47.2	52.0	..	..	1990	%	
613	910	112	112	261	290	..	..	1990	'000	51
553	861	115	93	253	282	..	..	1991	'000	
24.2	26.2	28.9	31.3	30.0	23.9	..	..	1990	%	52
21.1	24.0	29.6	25.9	28.2	23.0	..	..	1991	%	
20	21	21	22	21	22	..	..	1989	%	53
19	20	20	21	20	23	..	..	1990	%	

See notes at end of table.

Key labour and income facts

No.	Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
54 Labour force income profile							
Number of taxfilers	'000	1989	17,903	361	83	589	479
Income:							
Number reporting	'000	1989	17,849	360	83	588	478
Amount	\$ million	1989	417,810	6,244	1,508	11,741	8,895
Median	\$	1989	18,100	12,800	14,500	15,600	14,400
Canadian index	%	1989	100.0	70.7	80.1	86.2	79.6
Labour force income:							
Number reporting	'000	1989	14,108	288	68	452	366
Amount	\$ million	1989	334,074	5,275	1,211	9,329	7,197
Employment income:							
Number reporting	'000	1989	13,907	278	67	444	359
Amount	\$ million	1989	323,421	4,495	1,070	8,797	6,594
Median	\$	1989	18,600	10,200	11,500	15,800	13,800
Canadian index	%	1989	100.0	54.8	61.8	84.9	74.2
Self-employment income:							
Number reporting	'000	1989	1,823	32	12	53	35
Amount	\$ million	1989	20,813	229	111	656	347
Unemployment insurance benefits:							
Number reporting	'000	1989	2,817	143	27	132	126
Amount	\$ million	1989	10,654	779	141	532	603
U.I. dependency ratio	%	1989	3.29	17.34	13.21	6.05	9.15
Canadian index	%	1989	100.0	527.1	401.5	183.9	278.1
55 Economic dependency profile							
Transfer payments:							
Amount	\$ million	1989	49,494	1,401	311	1,932	1,613
Employment income	\$ million	1989	323,421	4,495	1,070	8,797	6,594
Economic dependency ratio (EDR)	%	1989	15.30	31.17	29.02	21.97	24.46
Canadian index	%	1989	100.0	203.7	189.7	143.6	159.9
Unemployment insurance benefits:							
Amount	\$ million	1989	10,654	779	141	532	603
Contribution to EDR	%	1989	3.29	17.34	13.21	6.05	9.15
Family allowance benefits:							
Amount	\$ million	1989	2,521	64	14	86	73
Contribution to EDR	%	1989	0.78	1.42	1.27	0.98	1.11
Federal sales tax credits:							
Amount	\$ million	1989	580	17	3	23	20
Contribution to EDR	%	1989	0.18	0.38	0.30	0.26	0.30
Child tax credit benefits:							
Amount	\$ million	1989	2,094	68	14	81	73
Contribution to EDR	%	1989	0.65	1.51	1.33	0.92	1.10
Old age security benefits:							
Amount	\$ million	1989	8,678	144	42	297	231
Contribution to EDR	%	1989	2.68	3.21	3.90	3.38	3.50
CPP/QPP benefits:							
Amount	\$ million	1989	10,620	154	43	382	271
Contribution to EDR	%	1989	3.28	3.42	4.00	4.34	4.11
Other pension benefits:							
Amount	\$ million	1989	14,347	175	54	531	343
Contribution to EDR	%	1989	4.44	3.90	5.01	6.04	5.19

Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
4,567	6,719	749	624	1,593	2,093	17	29	1989	'000	54
4,553	6,697	746	622	1,589	2,088	17	29	1989	'000	
94,861	177,048	14,837	12,508	38,082	50,854	436	796	1989 \$ million		
16,600	20,500	15,400	15,600	18,500	18,800	22,100	20,500	1989	\$	
91.7	113.3	85.1	86.2	102.2	103.9	122.1	113.3	1989	%	
3,487	5,404	558	488	1,330	1,625	15	26	1989	'000	
77,172	141,750	11,420	9,322	30,871	39,393	394	740	1989 \$ million		
3,422	5,357	548	482	1,313	1,597	15	26	1989	'000	
73,708	139,460	11,066	9,028	30,063	38,046	374	720	1989 \$ million		
17,900	20,900	16,200	14,400	18,300	19,100	21,400	21,800	1989	\$	
96.2	112.4	87.1	77.4	98.4	102.7	115.1	117.2	1989	%	
334	649	101	137	231	236	2	2	1989	'000	
4,211	8,552	862	1,160	1,879	2,776	16	14	1989 \$ million		
874	746	103	83	224	350	4	5	1989	'000	
3,464	2,290	354	295	808	1,347	20	20	1989 \$ million		
4.70	1.64	3.20	3.27	2.69	3.54	5.23	2.84	1989	%	
142.9	49.8	97.3	99.4	81.8	107.6	159.0	86.3	1989	%	
12,321	17,564	2,125	1,810	3,748	6,585	37	48	1989 \$ million		55
73,708	139,460	11,066	9,028	30,063	38,046	374	720	1989 \$ million		
16.72	12.59	19.20	20.05	12.47	17.31	9.82	6.60	1989	%	
109.3	82.3	125.5	131.0	81.5	113.1	64.2	43.1	1989	%	
3,464	2,290	354	295	808	1,347	20	20	1989 \$ million		
4.70	1.64	3.20	3.27	2.69	3.54	5.23	2.84	1989	%	
621	894	110	108	258	284	3	8	1989 \$ million		
0.84	0.64	0.99	1.19	0.86	0.75	0.75	1.06	1989	%	
168	179	30	25	50	63	--	1	1989 \$ million		
0.23	0.13	0.28	0.28	0.17	0.17	0.12	0.16	1989	%	
552	616	111	116	224	229	2	7	1989 \$ million		
0.75	0.44	1.00	1.28	0.75	0.60	0.58	1.04	1989	%	
2,093	3,257	470	386	601	1,152	2	3	1989 \$ million		
2.84	2.34	4.25	4.27	2.00	3.03	0.64	0.39	1989	%	
2,513	4,270	472	401	739	1,370	4	3	1989 \$ million		
3.41	3.06	4.26	4.44	2.46	3.60	1.01	0.41	1989	%	
2,909	6,060	578	480	1,069	2,139	6	5	1989 \$ million		
3.95	4.35	5.22	5.31	3.56	5.62	1.49	0.71	1989	%	

Key labour and income facts

Notes and definitions

No.

- 1 Persons aged 15 and over who are employed or unemployed.
- 2 Labour force as a proportion of the population aged 15 and over.
- 4 Persons who usually work less than 30 hours per week.
- 7 Unemployed as a proportion of the labour force.
- 8 This rate, and rates shown as Indicators 9 and 10, are described in *The Labour Force* (71-001), February 1987.
- 9 The full-time labour force includes persons working full time, those working part time involuntarily and unemployed persons seeking full-time work.

The part-time labour force includes persons working part time voluntarily and unemployed persons seeking part-time work.

On the margins of the labour force includes persons not looking for work because they believe none is available or because they are waiting for recall or for replies from employers.

- 10 The rate shows hours lost through unemployment (unemployed multiplied by average actual weekly hours) and through underemployment (that is, short-time work schedules and involuntary part-time employment) as a proportion of hours worked plus hours lost.

No.

- 30 Data are for agreements involving bargaining units of 500 or more employees. Canada figures include workers covered by federal labour legislation plus agreements involving workers in more than one province.
- 33 Labour income comprises gross wages and salaries (including directors' fees, bonuses, commissions, gratuities, taxable allowances and retroactive pay) and supplementary labour income (payments made by employers for the benefit of employees, including contributions to health and welfare schemes, pension plans, workers' compensation and unemployment insurance).
- 34 Labour income per employee is calculated using LFS estimates of paid workers excluding those absent without pay.
- 46 For an explanation of the methodology underlying the Low Income Cut-Offs, see *Income Distributions by Size in Canada* (Annual, Catalogue 13-207).
- 54-55 Data are derived from tax returns filed in the spring of the year following the reference year. The mailing address at the time of filing determines the province.

In the works

Here are some of the topics to be featured in upcoming issues of Perspectives on labour and income.

■ **Dual-earner families in Canada**

A description of changes since the late 1960s in the relative contributions made to family incomes by working spouses.

■ **Alimony payments**

This article studies the impact that alimony payments have on the income of recipients and of those who pay them.

■ **Studying on the job: Employer-sponsored training in Canada**

A look at the types of employees who are receiving training from their employers. Emphasis is placed on differences in training patterns by size of firm.

■ **The tourism industry – a labour market profile**

The study compares jobs in the tourism industry with those in other service-sector industries and in the goods-producing sector.

■ **Back injuries**

During the 1980s, over one-quarter of all Workers Compensation claims for time lost from work were for back injuries. The article describes common work accidents and the industries and occupations where most back injuries occur.

■ **Workers on the move**

An overview of hirings and separations in Canada and some international comparisons.

■ **Workforce turnover: Job hirings**

This article looks at the rate of hirings in different industries and the characteristics of the persons hired.

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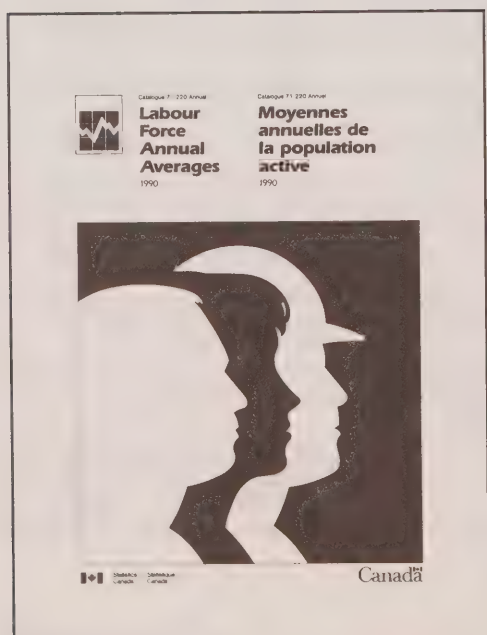
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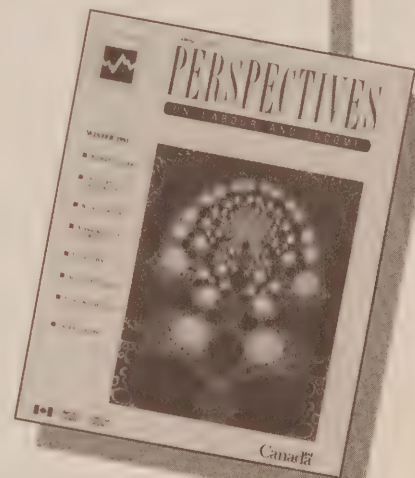
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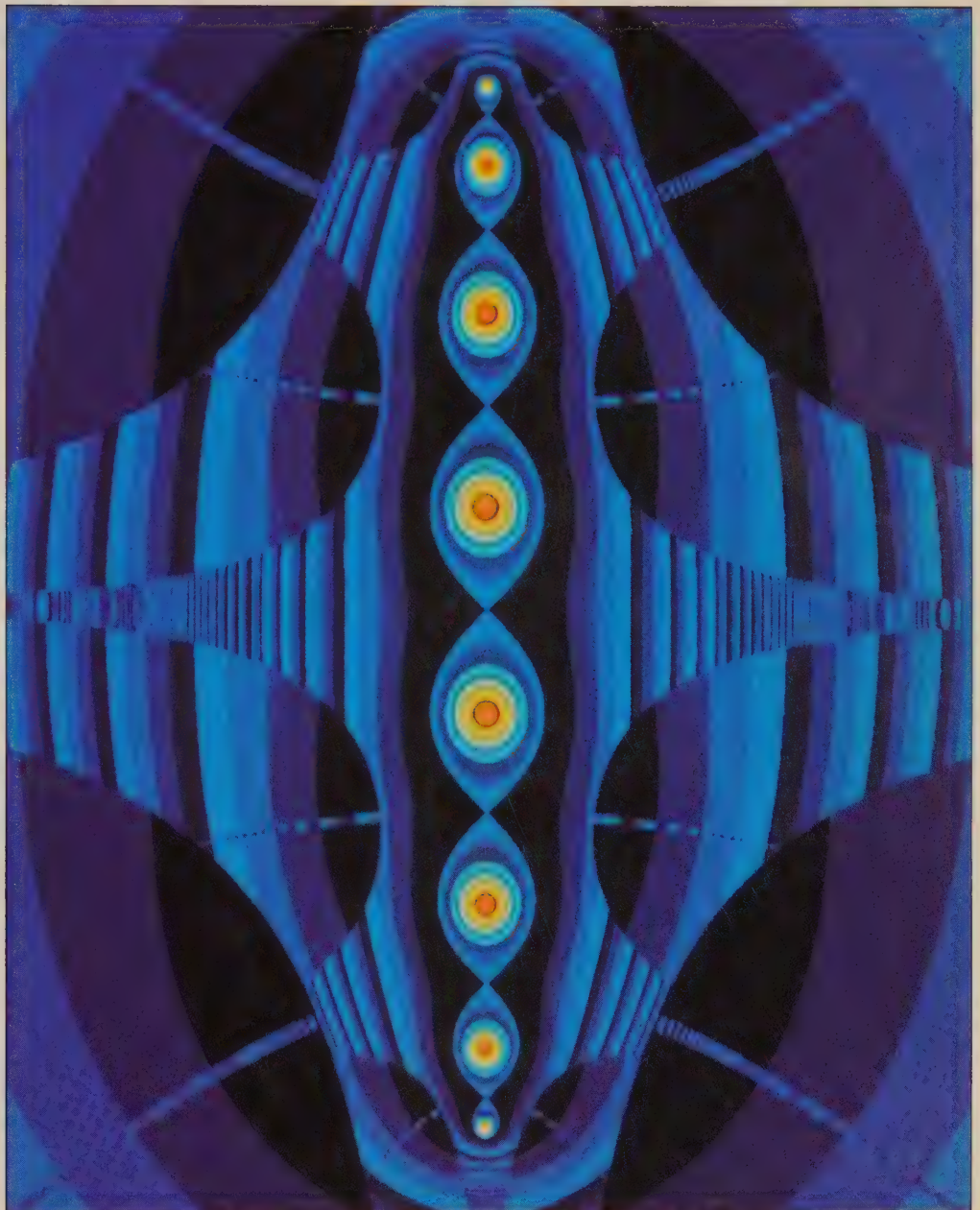


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ON LABOUR AND INCOME

SUMMER 1992

- ALIMONY AND CHILD SUPPORT
- DUAL-EARNER FAMILIES
- STUDYING ON THE JOB
- LABOUR TURNOVER
- HIRINGS



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Forum

From the editor

■ As a society, our attitude towards employee turnover is deeply ambivalent. We want to have our cake and eat it too, but merely prove once again that it is impossible to do so. If too many workers leave their jobs to accept more attractive ones, we try to assist the employers who are left the difficult (and often expensive) task of finding and training replacements. And if too many workers are laid off, we try to alleviate any undue hardship they may suffer as they look for new jobs.

At the same time that we establish social and economic programs to mitigate the worst hazards of job turnover, we become concerned when there is too little turnover. If employees remain permanently with one firm, ignoring better jobs with other local employers or in other regions, it is taken as a sign that the labour market has lost its capacity to adjust to new demands. Such rigidity can reduce efficiency, thereby limiting the economy's capacity to compete. Similarly, potential production is forgone if workers lose their jobs in declining industries (or failing firms in growing industries) and are not hired by prospering firms because they lack the relevant skills. Even in the realm of worker training – now a virtual buzzword in discussions about the labour market – turnover is a double-edged sword. Companies insist training is feasible only if employees remain with the firm long enough for the employer to recoup the investment. Meanwhile, expanding firms,

seeking to reap the benefits of training without incurring the expense, often try to lure workers who are already trained away from other companies.

These are not the only tugs-of-war taking place in the labour market. Demographic and social changes interacting with labour market changes both facilitate and impede job turnover. Now that the dual-earner family is the norm, one partner's income can sustain the family while the other takes training between jobs to improve career opportunities and future earnings. However, with two careers to consider, the free movement of people among jobs can be inhibited. When one partner is transferred, the spouse may be uncertain of finding another satisfying job in a new community, or even any job at all. At the other end of the spectrum are those families, usually headed by a woman alone, who derive a significant portion of their income from support payments. If the worker paying the support suffers an involuntary job change, the family can be exposed to considerable hardship. (The article "Alimony and child support" examines the financial situation of recipients and payers.)

Clearly, there must be an optimal rate of turnover that will balance these powerful opposing forces and yield the greatest overall labour market performance.

However, until recently, looking for the optimal level of turnover was confounded by not knowing what the actual level was at any given time, and statisticians had almost no comprehensive data that was consistent through time. Through

the Labour Force Survey (a survey of households) and the Survey of Employment, Payrolls and Hours (a survey of establishments), Statistics Canada has closely monitored the month-to-month change in the total number of people employed, but had difficulty interpreting what this change really represented. For example, there might be a small increase in the level of employment, but was this because every worker kept the same job he/she had held the previous month while a few new people got new jobs? Or was it because a very large number of quits and layoffs were slightly exceeded by the number of new hirings?

Fortunately, analysts can now distinguish between these two very different scenarios by using newly developed data to quantify how the labour force is adapting to change. What the numbers show is that small changes in total employment are the result of massive flows into and out of jobs. "Workers on the move: An overview of labour turnover" outlines the quantity of voluntary and involuntary job change in the economy and introduces "Workers on the move: Hirings," a more in-depth examination of new employment. In the Autumn 1992 issue, we will continue the analysis with "Workers on the move: Quits" and "Workers on the move: Permanent layoffs,"

which document the workers and industries most deeply affected by labour market "churning." Other articles in this Summer issue look at the workers who get employer-sponsored training ("Studying on the job") and describe the state of family income ("The changing profile of dual-earner families").

Ian Macredie
Editor-in-Chief



We welcome your views on articles and other items that have appeared in *Perspectives on labour and income*. Additional insights on the data are also welcome, but to be considered for publication, communications should be factual and analytical. We encourage readers to inform us about their current research projects, new publications, data sources and upcoming events relating to labour and income.

Statistics Canada reserves the right to select and edit items for publication. Correspondence, in either official language, should be addressed to: Susan Crompton, Forum and What's new? Editor, *Perspectives on labour and income*, 5-A Jean Talon Building, Statistics Canada, Ottawa, K1A 0T6, or call (613) 951-0178.

Highlights

Here are some key findings from the articles in this issue of Perspectives on labour and income.

Alimony and child support

■ In 1988, 289,000 men reported paying \$1.3 billion in alimony and child support, for an average amount of \$4,500. In the same year, 239,000 women reported \$1.1 billion in support payments, for an average of \$4,600. (The difference between the number of payers and recipients is explained in the article.)

■ The average amount of support paid represented 9% of the average income of payers. The equivalent proportion for recipients was 15%.

■ Receiving alimony payments appears to be extremely important for single-parent families with children under 18. The per capita income of recipient families of this type was 45% to 56% higher than that of non-recipient families, depending on the number of children in these families.

■ At 38% of their average income, support payments represented the largest share of the income of non-family persons. These women were generally older than other recipients and a high proportion had no labour market ties.

■ Recipient husband-wife families are much less dependent on support payments. For them, alimony comprised 6% of their average income.

Note: Because extreme values have greater weight on an average than other values, it is often useful to examine median amounts. For example, while the average amount of support paid in 1988 was \$4,500, the median amount (the middle value, if the support payments were ordered from smallest to largest), at \$3,000, was significantly lower. The article contains both averages and medians.

The changing profile of dual-earner families

■ In 1989, 3.8 million wives were part of dual-earner families compared with 1.3 million in 1967.

■ Four-fifths of families with incomes of \$70,000 (1989 dollars) and over had wives working in 1989; the comparable proportion was one-third in 1967.

■ By 1989, 71% of wives with children under 6 years of age worked whereas in 1967, only 27% worked.

■ Although the proportion of families with both spouses in managerial or professional occupations rose to 16% in 1989 from 6% in 1967, the predominant occupational combination for working spouses remained blue-collar for husbands and clerical, service or sales for wives (25%).

■ The proportion of dual-earner families with wives earning \$30,000 or more and husbands earning \$40,000 or more rose to 7% in 1989 from almost none in 1967.

■ Husbands' earnings dropped from 63% of the total incomes of dual-earner families in 1967 to 56% in 1989 while those of wives rose from 26% to 29%.

Studying on the job

■ Between December 1989 and November 1990, almost 1.3 million Canadian workers over the age of 16 took part-time training courses that were sponsored by their employers. This number represents almost 14% of the paid workforce.

■ Industries that placed the highest priority on training were utilities (31% of the workforce received training) and public administration (28%).

■ The chances of receiving employer-sponsored training courses rise as the size of the firm increases. From a low of 6% for small firms with less than 20 employees, the rate of part-time training rose to 11% and 15% for medium-small and medium-large firms respectively, and then reached 22% for companies with 500 or more employees.

■ Workers in white-collar occupations received more employer-sponsored training during the reference period, than those in other occupations. Workers in natural sciences were most likely to benefit (28%),

although rates as high as 25% were reported for workers in social sciences and managerial or administrative positions.

■ Courses in commerce, management and business administration were the most popular. Workers enrolled in these accounted for 29% of all employer-sponsored trainees in short-term and part-time courses. The second most popular field of study (26% of enrolment) was engineering and applied science technologies and trades, which encompasses computer technology.

Workers on the move: An overview of labour turnover

■ During 1988, 4.6 million workers either left or were permanently laid off from their jobs. In addition, there were 1.8 million temporary separations, where workers returned to their jobs after an absence.

■ There were 5 million hirings during 1988. Of these, 70% were full-time jobs and approximately 76% were permanent.

■ Of the 15.3 million person-jobs held during 1988, about one-third were accounted for by hirings during the year; on average, nearly 4% of jobs were held by persons hired during any given month.

■ In 1988, there were about 2.9 million quits and 1.2 million people permanently laid off for economic reasons. Permanent separations resulting from retirement, dismissals, labour disputes and end of short-term contracts accounted for another 555,000 people.

■ The higher hiring and separation rates observed in Canada also prevail in Australia and the United States, while rates in Japan and France are relatively low.

Workers on the move: Hirings

■ In 1988, there were 5 million hirings, which accounted for 32% of all paid jobs during the year. Over two-thirds of hirings were for full-time jobs.

■ From January to April 1988, the proportion of full-time hirings rose from 66% to 75% of total hirings, then fell at an almost constant rate to trough at 51% in December.

■ Because of the entry of students into the labour market and the beginning of the production season in certain industries, the highest hiring rates and the largest number of hirings were recorded in spring and summer (40% of hirings took place in May, June and August 1988).

■ On average, the persons hired were relatively young: 46% were under 25, and 29% were aged 25 to 34.

■ In 1988, the service sector accounted for 72% of all hirings. The industries with the most hirings were retail trade (17% of all hirings), accommodation and food services (12%), health (6%), business services (6%) and education (5%).

What's new?

■ The first national Survey of School Leavers, conducted by Statistics Canada in 1991, confirms that drop-out rates are high. An information package with preliminary results is available.

■ *Labour Force Annual Averages, 1991* presents a year-end compilation of labour market data. This publication also features

an article on employment in the service sector from 1976 to 1991.

■ Results of Cycle 6 of the General Social Survey (GSS), conducted in 1991, are now available. The survey looked at the state of people's health and the impact of work on their physical and mental well-being.

■ The Survey of Labour and Income Dynamics (SLID), a longitudinal survey of households, will be carried out by Statistics Canada in 1994. It will follow individuals and families for five or six years, collecting information about their labour market experiences, income and family circumstances.

■ The *Guide to Labour Force Survey Data* is now available. It provides a general overview of the survey's methodology and collection procedures. Concepts and terminology are discussed and the survey questionnaire is explored in detail.

■ The Industrial Relations Centre of Queen's University is offering an annual subscription to a comprehensive package of its products and services.

■ A report is presented on the main issues discussed at a three-day conference on environment and employment, sponsored by the Canada Employment and Immigration Advisory Council.

■ In June 1992, Statistics Canada will carry out the Survey of 1990 Graduates on behalf of Employment and Immigration Canada. The main objective will be to examine the labour market experiences of the graduates in the two years since they have obtained their qualifications. □

Alimony and child support

Diane Galarneau

With the growing number of single-parent families and the many criticisms of the present system for determining alimony and child support payments, such disbursements are becoming a subject of increasing concern. According to a Department of Justice study (DOJ, 1990), women and children generally feel the financial effects of a divorce or separation much more harshly than do men. The results of the 1986 Census show that 82% of single-parent families were headed by women, more than half with low incomes. The children of these families made up 3% of all Canadians, but represented more than one-quarter of all persons in low-income families (Statistics Canada, 1991).

There are no data sources currently available that contain complete information on all those who receive or make alimony¹ payments. However, tax data can be used to identify individuals who receive or make such payments, as long as they report them.

According to Revenue Canada's tax data, support payments averaged about \$4,600 in 1988, or nearly \$400 per month. While they comprised only 0.3% of the combined income of all taxfilers, such payments nevertheless represented 15% of

family income for those receiving alimony and 9% of family income for those making payments.

Role of support payments

Canada's first *Divorce Act* was adopted in 1968. At that time, alimony payments by former spouses were based on the principle of fault. Husbands responsible for breaking up their marriages found themselves obligated to make payments to what were then generally called "innocent" wives (MacDonald, 1989), so that they could look after the children and maintain the same standard of living as before the divorce. Thus, "innocent" wives were not responsible for supporting themselves. "Guilty" wives were treated in a totally different manner: they were left to fend for themselves.

As a result of much criticism, the *Divorce Act* was amended in 1985. These amendments were implemented in order to: "(1) make the divorce process less adversarial while increasing the chances for reconciliation of the spouses; (2) provide a more humane and fairer resolution of the consequences of divorce; and (3) recognize provincial responsibilities and provide for a process of divorce which would operate with as few complications or duplications as possible." (MacDonald, 1989) Subsection 15(7) of the Act sets out four objectives for spousal support orders which should:

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- "(a) recognize any economic advantages or disadvantages to the spouses arising from the marriage or its breakdown;
- (b) apportion between the spouses any financial consequences arising from the care of any child of the marriage over and above the obligation apportioned between the spouses ... ;
- (c) relieve any economic hardship of the spouses arising from the breakdown of the marriage; and
- (d) in so far as practicable, promote the economic self-sufficiency of each spouse within a reasonable period of time."

The Act establishes a distinction between orders for support payments for spouses and those for children. The objectives of child support awards, set out in subsection 15(8) of the Act, aim to: "(a) recognize that the spouses have a joint financial obligation to maintain the child; and (b) apportion that obligation between the spouses according to their relative abilities to contribute to the performance of the obligation." (Rogerson, 1990)

Other provisions to be taken into account by the judge in making orders for support payments are found in subsection 15(5) of the Act, which provides that the court is to take into consideration the condition, means, needs and general circumstances of the parties, including: "(a) the length of time the spouses cohabited; (b) the functions performed by the spouse during cohabitation; and (c) any order, agreement or arrangement relating to support of the spouse or child." (Rogerson, 1990)

Repercussions

The introduction of the fourth objective of orders for spousal support, aimed at limiting financial ties between the former spouses as

far as possible, has had a number of repercussions. It is generally recognized that the number of support orders for limited terms has risen, along with the number of cases in which no order was granted (MacDonald, 1989).

According to two reports, one a consultation with family law lawyers on the 1985 *Divorce Act* (MacDonald, 1989) and, a second, a study of the case law (Rogerson, 1990), two groups appear to have been especially affected by this objective of economic self-sufficiency: middle-aged women who have not been in the workforce during their years of marriage and women in their thirties and forties with post-divorce custody of their children. Granting this last group fixed-term support orders often gives them too little time to acquire the knowledge needed to get a job and become self-supporting.

What is alimony?

In this article, the definition of "alimony" corresponds to that of Revenue Canada: an amount paid pursuant to a decree, order or judgement of a competent tribunal or pursuant to a written agreement, for the maintenance of the spouse (whether legal or common-law), former spouse (whether legal or common-law), or any children of the marriage; the spouses are living apart when the payment is made and throughout the remainder of the year and were separated pursuant to a divorce, judicial separation or written separation agreement; and it is payable in the form of periodic payments (Revenue Canada, 1990).

The family tax data file (T1FF) does not distinguish between support payments made on behalf of the former spouse and those made on behalf of the children (see *Description of the data*). They are therefore considered as a unit in this article. Since the current trend in divorce cases favours the financial self-sufficiency of the former spouses, it is possible that support payments will be paid more and more often on behalf of

the children. At least, that is what Quebec's Justice ministry concluded on the basis of the results of a survey on support payments from 1981 to 1986 (Pelletier, 1987).

It is also not known for how many children each payment is made. That can be important in the case of a blended family, which might have children from a previous marriage and others from the current marriage. Even if payments are made solely on behalf of the children from the previous marriage, the family tax data file will only reveal the total number of children in the new family and the amount paid.

In the case of joint custody, certain expenses related to the children are apportioned between the former spouses, who take turns maintaining them. Since such expenses are in the form of clothing, food or leisure, they are not included in this article.

Description of the data

The Small Area and Administrative Data Division has developed a file on families (T1FF) based on personal income tax data. Although the file has been in existence since 1982, information on support payments has only been available since 1986. This article presents the most recent results when this report was written, namely those for 1988.³

The file can be used to compare the economic circumstances of certain types of families. The concept of "family" used in the T1FF is an approximation of the "nuclear family." It is an "approximation" because the make-up of the families is based on information contained in tax returns. If an income tax return does not suggest that there is a spouse or a dependent child, the person who filed it will be considered a non-family person, although he or she could actually be in an entirely different situation.

For the purposes of this article, three types of families – single-parent, husband-wife and non-family persons – were selected. Non-family persons do not necessarily live alone (in fact, in 1986, only 67% of them were living alone), while all unattached individuals are non-family persons. According to the census definition, which is similar to that used in T1FF, a non-family person may or may not be related to the household's "reference person." Therefore, he or she could be a brother-in-law, a grandmother, a roomer, an employee, and so on.

The availability of child tax credits and federal sales tax credits encourages people with low incomes to complete tax returns in order to receive those

A support order made during a separation or divorce does not, in itself, guarantee that payments will be made. The tax data disclose only the amounts reported to Revenue Canada, and not those that should be paid. In Ontario, for example, it has recently been estimated that there are 90,000 unpaid support orders, representing \$470 million in delinquent payments (Canadian HR Reporter, 1991).

Recipients and payers

Although some men receive alimony, it is not common. In 1988, they represented barely 2% of those receiving such payments. For the purposes of this analysis they have been excluded since their inclusion could distort the data.² Thus, the term "recipients," means only those women who have indicated on their tax returns that they

credits. A rise in the number of taxfilers in the lower income brackets has been observed since those credits came into force. The income of those recipients is often below the average and their representation has tended to increase.

In this article, when faced with a question of income, the reference is to family income before deductions and, therefore, before tax. Alimony payments are part of the taxable income of recipients, which means that they actually receive a smaller amount, considering their taxes, than the gross amount that appears in the tables shown here. Alimony payments, however, are included in the payers' total income. While these amounts reduce the payers' disposable income, they can be deducted from the payers' taxable income, so that the amounts actually paid are smaller than the gross amounts shown in the tables.

There are also rules regarding the types of payments that are eligible for tax deductions. For example, a lump-sum payment⁴ is not eligible; payments must be regular and recurring. Thus, informal, out-of-court agreements are not included in the tax data because they are not deductible.

The file does not permit matching payers with the recipients to whom payments are made. As a result, it is impossible to compare the income of payers and recipients on a one-to-one basis; only global comparisons are possible.

Thus, the data used here are not exhaustive. But they are the only data in existence on the subject, and they make it possible to provide some insights into the circumstances of a portion of the recipients and a portion of the payers.

received support payments, whether those payments were made on their own behalf or on behalf of their child(ren). Similarly, "payers" includes only men.

In 1988, 289,000 men reported that they had paid \$1.3 billion in alimony payments in Canada, an average amount of \$4,500 and a median amount of \$3,000. In the same year, 239,000 women reported that they had received \$1.1 billion in the form of support payments, for an average of \$4,600 and a median of \$3,000.⁵

The differences between the number of payers and the amount paid and the number of recipients and the amount received are due to a number of factors. Although Revenue Canada requires that what is reported on the one side should normally be reported on the other, such is not always the case. For example, it is possible that some recipients do not report

the payments they have received because their income is too low to justify a tax return; because their income otherwise consists solely of welfare payments, mothers' allowance or other non-taxable – and consequently, unreported – benefits; because they are living abroad; or, for some other reason. (For more information on the data limits see *Description of the data*.)

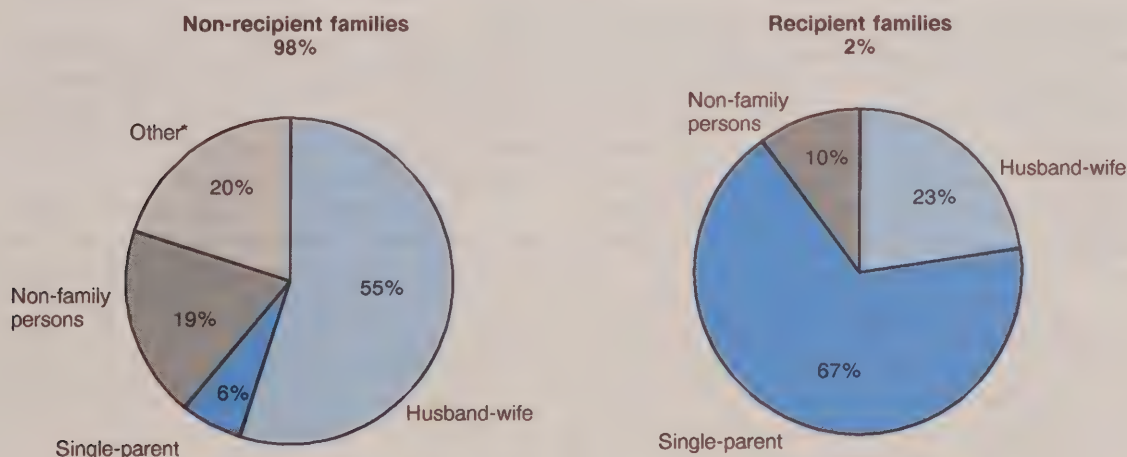
Characteristics of recipients

Family type

To measure the importance of alimony to recipients' incomes, it is preferable to take their family situations into account. A recipient at the head of a single-parent family whose total personal income is \$25,000 is not in the same financial situation as another recipient with the same personal income but who is a member of a husband-

Chart A

In 1988, the majority of alimony recipients were from single-parent families.

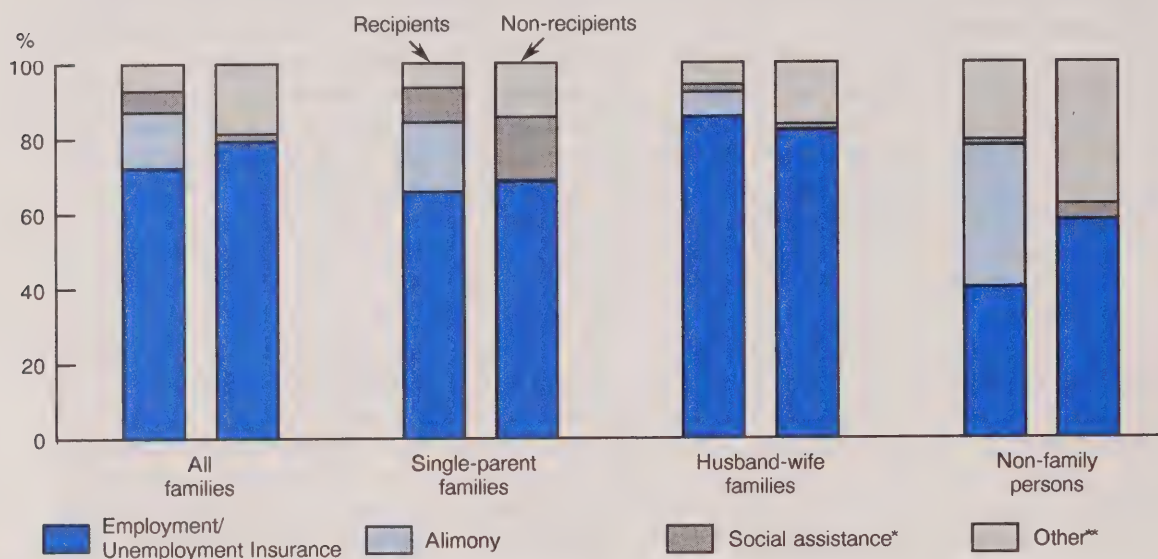


Source: Small Area and Administrative Data Division

* Includes male recipients who represented 2% of all recipients.

Chart B

In 1988, alimony accounted for 15% of the family income of all recipients.



Source: Small Area and Administrative Data Division

* Includes non-taxable benefits such as welfare and Mothers' Allowance.

** Includes pension, investment and rental income, and Family Allowance.

wife family (as shown later on, the average and median family income is much higher in the second case). For the purposes of this article, three types of families have been identified: single-parent, husband-wife and non-family persons. Comparisons will be made on the basis of family income⁶ while taking into account the number of persons who depend on that income.

According to the family file based on tax records, there were 10.9 million families in Canada in 1988 (including non-family persons). Fewer than 9% were single-parent families, 54% were husband-wife families, and 38% were non-family persons. Only 2.2% of these families included one or more recipients, and most of them (1.5%) were in single-parent families.

Age

The average age of the recipients is 38 years. More than three-quarters of them are 25 to 44 years of age. Non-family persons who receive support payments differ from the rest, as 84% of them are 45 and older.

Recipients tend to be younger than non-recipients. Non-recipients make up about 98% of the total number of women, so it is not surprising that their age distribution is more dispersed. Thus, although a large proportion of non-recipients (45%) are aged 25 to 44, there are more of them under 25 (12%) or 65 and over (16%).

Number of children

The number of children is an important factor when economic circumstances of families are compared. Only children under the age of 18 have been considered in this

analysis because most children older than that have left school, and it can therefore be assumed that they pay for most of their own needs.

Setting aside non-family persons, a greater proportion of recipient families have children under 18, and they also have more children than non-recipient families. For example, 7% of single-parent families that are recipients have no children under 18, as opposed to 19% of non-recipient single-parent families. However, 39% and 13% of recipient single-parent families have two and three or more children under 18, respectively, as opposed to 23% and 11% of non-recipient families of the same type.

Of all the family types, recipient husband-wife families are the most likely to have three or more children under 18 (22%). This is probably due to blended families.

Recipients are on average younger than non-recipients, which explains in part why there are more younger children (disregarding, of course, non-family persons, who are older and have not reported any dependent children).

Income

Are the relative financial circumstances of recipient families improved because they receive support payments?

The per capita incomes of recipient and non-recipient families were compared by family type. Per capita income is based on family income and makes it possible to consider all the persons who depend on the same family income.

It should be noted at the outset that variables other than the existence or non-existence of support payments may explain certain income differentials between recipients and non-recipients. As shown later, women from recipient families have greater ties to the labour market than non-recipients (disregarding non-family persons, see Chart C).⁷ This probably explains certain income differentials. It is also possible that recipients are generally better educated, which may have an impact on their income. Such distorting factors cannot be detected in the tax file because it does not include personal characteristics.

Table 1
Distribution of families by type and by number of children under 18, 1988*

	Families	Children under 18				
		Total	None	One	Two	Three or more
	'000			%		
Single-parent						
Recipients	161	100	7	41	39	13
Non-recipients	605	100	19	47	23	11
Husband-wife						
Recipients	55	100	9	32	37	22
Non-recipients	5,821	100	52**	18	21	10
Non-family persons						
Recipients	23	100	100	...	...	...
Non-recipients	2,069	100	100	...	...	...

Source: Small Area and Administrative Data Division

* For the purposes of this table, children 18 and over are not considered children.

** This proportion is high because some 15% of husband-wife families with children aged 18 and over are included.

Receiving alimony payments appears to be extremely important for single-parent families with children under the age of 18. The per capita income of recipient families of this type was 45% to 56% higher than that of non-recipient families depending on the number of children in these families. It should be noted that non-recipient single-parent families receive the lowest per capita income of all families. Their most important source of income, after employment (69%), was social assistance (17%) followed by other income (14%).⁸

However, the income of single-parent recipient families without children under 18 is similar to that of their non-recipient counterparts, who receive greater income from other sources. In fact, 20% of the income of non-recipients comes from investments, pensions and rental property. This is

probably not surprising because these non-recipients are older and they may have had a chance to accumulate assets, giving them greater income security.

For husband-wife families, the income differential is less obvious. For each recipient family group (with or without children under 18), the per capita income is much higher (Table 2). However, the difference is lessened as the number of children increases. It is interesting to note that at the global level the opposite happens. In other words, the per capita income of all recipient families is lower than that of non-recipient families. This is explained by the fact that non-recipient husband-wife families are more concentrated in the group with the highest per capita income (\$20,500), those without any children under the age of 18. On the other hand, recipient husband-wife families

Table 2
Per capita income by type of family and number of children under 18, 1988*

		Children under 18				
		Total	None	One	Two	Three or more
All families						
Recipients	\$	10,500	18,900	12,500	9,300	6,900
Non-recipients	\$	15,000	19,600	14,100	11,800	8,300
Recipient/non-recipient ratio	%	0.70	0.96	0.89	0.79	0.83
Single-parent						
Recipients	\$	8,400	15,600	10,500	7,500	5,000
Non-recipients	\$	7,200	15,300	7,200	5,100	3,200
Recipient/non-recipient ratio	%	1.17	1.02	1.45	1.48	1.56
Husband-wife						
Recipients	\$	13,900	24,300	17,700	13,300	9,600
Non-recipients	\$	15,400	20,500	15,200	12,400	8,900
Recipient/non-recipient ratio	%	0.91	1.19	1.16	1.07	1.09
Non-family persons						
Recipients	\$	19,700	...	...	...	...
Non-recipients	\$	17,500	...	...	...	...
Recipient/non-recipient ratio	%	1.13	...	...	...	...

Source: Small Area and Administration Data Division

* Per capita income represents family income divided by the number of family members. Only children under the age of 18 are considered children.

are much more concentrated in the group with two children, the group that has one of the lowest per capita incomes (\$13,300).

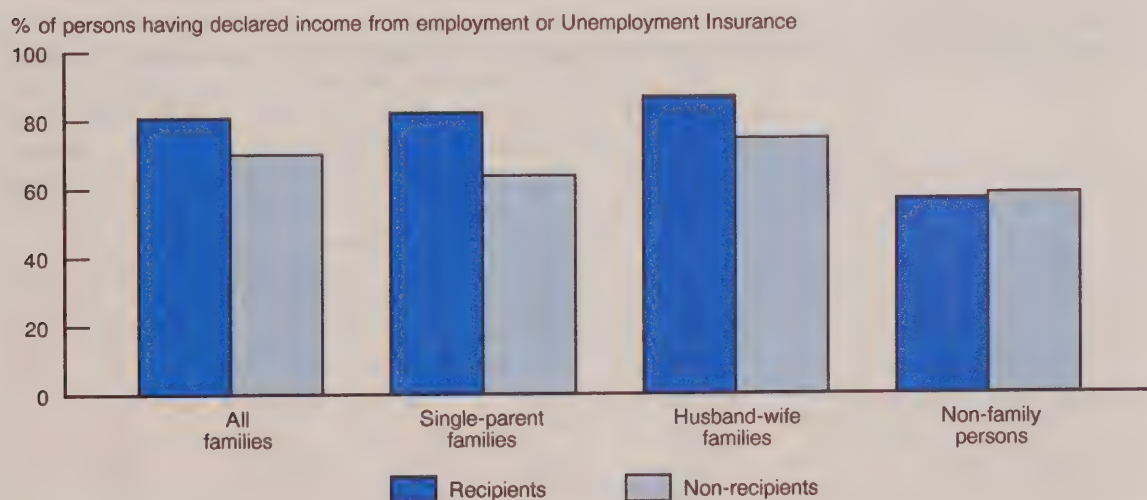
Even if alimony makes up a large proportion of the income of non-family persons, their income is comparable to that of non-family persons who do not receive such payments. However, the make-up of their income is different: non-recipients earn more income from employment and from other sources such as investments and rental property. This is partly explained by the difference in the age distribution of these two groups. For example, the non-recipient group includes more women under 35 (36% versus 5% for recipient families) which would explain in part why they earn more employment income. Although their ties to the labour market appear to be identical to that of the recipient group (Chart C), this may be because non-recipients work more hours.

A higher proportion of non-family persons who do not receive support payments are 65 and over (34% versus 17%), which may explain why they received a larger share of their income in the form of other income, such as pension benefits (Chart B). Most recipient non-family women are between 45 and 64 years of age. Many of them may have been unable to participate in the labour market because family obligations and traditional expectations kept them at home, with the result that lifelong support payments were probably essential.

To provide a more complete picture, such comparisons should take into account family expenses. For example, persons living alone must bear certain fixed expenses, such as rent, alone. Thus, they do not benefit from certain economies of scale enjoyed by the members of families with several persons.

Chart C

In 1988, recipients were more strongly tied to the labour market.*



Source: Small Area and Administrative Data Division
 * Men are excluded from all categories in this chart.

Importance of support payments

"...both parents have an equal responsibility toward their children and should contribute in accordance with their own means to the needs of the children." (DOJ, 1991)

As shown earlier, a relatively small proportion of families reported that they had received alimony. When they had, however, these payments represented a large share of their income. The following analysis focuses specifically on the family income (average and median) of recipients.⁹

Support payments, at 30% of their median income or 38% of their average income, represent the largest share of the income of non-family persons. These persons also have the highest median and average payments, at \$4,800 and \$7,400, respectively (Table 3). It should be remembered that these women are generally older than other recipients and that a much higher proportion have no labour market ties. This observation could, in fact, be made for all non-family women, whether or not they are recipients.

Single-parent families come in second place in terms of amounts of alimony received and shares of income these amounts represent. Single-parent families without children under 18 receive the highest average and median payments of families of this type. The payments then generally rise with the number of children but never attain the amount received by families without children under 18. Although not verifiable, this situation may be an indication that support payments made to children 18 and over are higher.

It is also interesting to note that if the importance of the payments rises with the number of children it is not just because the amount rises, but also because income declines.

As might be expected, recipient husband-wife families are much less dependent on support payments. For them, alimony comprises between 5% and 7% of their income. This could be attributable, in part, to the fact that few remarried women receive support payments for themselves,

Table 3
Family income and alimony, by type of family and number of children under 18, 1988*

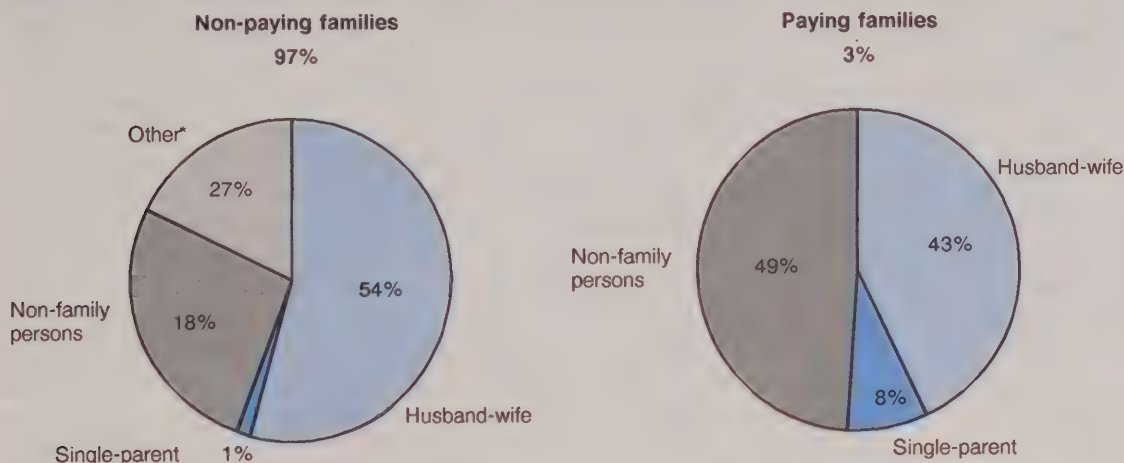
	Median			Average		
	Income	Alimony		Income	Alimony	
	\$	\$	% of income	\$	\$	% of income
Single-parent families	20,900	3,000	14	23,700	4,500	19
No children	32,900	4,200	13	36,000	7,000	19
One child	20,800	2,400	12	23,000	3,600	16
Two children	20,500	3,600	18	23,000	4,800	21
Three or more children	18,000	3,600	20	21,700	5,200	24
Husband-wife families	50,000	2,600	5	55,500	3,500	6
No children	53,000	2,500	5	61,000	4,300	7
One child	51,300	2,400	5	56,700	2,900	5
Two children	49,700	2,800	6	54,600	3,700	7
Three or more children	47,800	3,000	6	53,000	3,900	7
Non-family persons	16,000	4,800	30	19,700	7,400	38

Source: Small Area and Administrative Data Division

* Only children under the age of 18 are considered children.

Chart D

The majority of payers in 1988 were non-family persons or members of husband-wife families.



Source: Small Area and Administrative Data Division

* Includes female payers, who accounted for 2.2% of all payers.

whereas it is more frequent for unattached women. Once again, the average payment rises with the number of children under 18 but is highest when there are no children under 18. This is not true of the median payment, however: it is higher for families with two or more children than for families without children under 18.

The difference between the amounts received by single-parent and husband-wife families might be explained by the single-parent family's greater need for money. It may also be due to the phenomenon of blended families, which are only found among husband-wife families. Even if a family has several children under 18, it is possible that support payments are made only on behalf of a single child from a previous marriage. That could explain in

part the difference between the amounts reported by these two types of families when they have more than one child under 18.

The payers

With respect to payers, women are excluded, just as men were excluded from recipients.

Unlike recipients, who come mostly from single-parent families, payers are mainly unattached individuals (49%) or spouses in husband-wife families (43%). Payers are generally a little older than recipients: 41 years old on average, compared with 38 for recipients.

It is generally accepted that while alimony makes up a significant proportion of the income of recipients, this is much less so for payers. To what extent is this true?

The median and average values of support payments represent 7% and 9%, respectively, of the median and average incomes of payers as a whole (Table 4). The equivalent values for recipients are 12% and 15%, respectively. Thus, the difference does not appear to be great. Nevertheless, a more detailed examination discloses greater differences.

It is impossible to match payers with the persons to whom they make support payments (see *Description of the data*). However, the circumstances of payers and recipients can be compared by family type. The biggest differential in the importance of the payments in the median and average incomes of payers and recipients appears in the case of non-family persons: the payments represent 9% and 12%, respectively, of payers' median and average incomes, as opposed to 30% and 38% for recipients.

Since payers are most often non-family persons or members of husband-wife families (93%) and since the majority of recipients (67%) are found in single-parent families, it would be interesting to compare the importance of alimony in the incomes of

these payers and these recipients. In this case, the payments represent 9% of the average income of payer families, as opposed to 19% of the average income of recipient families. Thus, the data appear to confirm that alimony represents a relatively higher proportion of the income of recipients.¹⁰

To what extent can the income of payers be compared with that of recipients? For this comparison, per capita income, which is based on family income, is used. The per capita income of recipient families represents 41% of the payers' per capita income. It appears that, since all of our recipients are women and all our payers are men, part of this gap is attributable to an already existing income differential between men and women. However, the difference in income between recipients and payers is greater than for the population as a whole, since the income of all women, on average, is 60% that of men.

Therefore, not only do alimony payments represent a larger proportion of the income of recipients than of payers, but recipients must also make do with a distinctly lower income than their counterparts, the payers.

Table 4
Family income and alimony, comparison of recipients and payers, 1988

	Median			Average			Per capita income
	Income		Alimony	Income		Alimony	
	\$	\$		\$	\$		
			% of income			% of income	\$
Paying families	40,900	3,000	7	50,400	4,500	9	25,800
Single-parent	40,600	2,700	7	48,700	4,400	9	21,100
Husband-wife	54,900	2,800	5	65,200	4,400	7	22,000
Non-family persons	31,800	3,000	9	37,700	4,600	12	37,700
Recipient families	24,600	3,000	12	30,600	4,600	15	10,500
Single-parent	20,900	3,000	14	23,700	4,500	19	8,400
Husband-wife	50,000	2,600	5	55,500	3,500	6	13,900
Non-family persons	16,000	4,800	30	19,700	7,400	38	19,700

Source: Small Area and Administrative Data Division

Current legislation

When a support order is made after a divorce, it is the federal *Divorce Act* that applies. With respect to a legal or de facto separation, the provinces and territories have jurisdiction. The rules for determining support payments are quite vague. As a result, they are decided on more or less arbitrarily by the judge hearing the case. Furthermore, a certain difference can be observed in the amounts of payments (received or made) by province; they appear to be more generous in Quebec, followed by Ontario.

There is currently a joint federal-provincial-territorial project to draw up rules for determining child support payments, which should favour a standardization of the amounts granted throughout the country in addition to overcoming several weaknesses of the present system (DOJ, 1991).

At the provincial level, some efforts are being made to make sure that support payments are indeed paid. For example, certain provinces have automatic enforcement systems for alimony payments, which do not impose any expenses on the plaintiffs. Ontario's Bill 17 (Government of Ontario, 1991), which came into effect on March 1, 1992, implements stricter measures than the other provinces in this area. Employers are obligated to withhold the amounts of alimony payments from the wages of employees who are delinquent in their payments. These deductions are obligatory, like those required for Unemployment

Insurance or the Canada Pension Plan. These considerations, however, exceed the limits of this article.

Average alimony payment made and received by province and territory, 1988

	Alimony paid	Alimony received
	\$	\$
Canada	4,500	4,600
Newfoundland	3,400	3,400
Prince Edward Island	3,600	3,700
Nova Scotia	3,300	3,400
New Brunswick	3,400	3,800
Quebec	4,900	5,100
Ontario	4,800	4,800
Manitoba	3,900	3,900
Saskatchewan	3,700	3,800
Alberta	3,800	3,900
British Columbia	4,100	4,200
Northwest Territories	4,800	4,000
Yukon	3,600	3,100

Source: Small Area and Administrative Data Division

Summary

According to 1988 tax data, a majority of women who receive alimony come from single-parent families. Their average age is 38. Most have children under 18 and they have more children that age than women who do not receive alimony. Payers are a little older than recipients (41 years, on average), and most of them are non-family persons or members of husband-wife families.

Members of single-parent families with children under 18 have the lowest per capita income. Receiving alimony is of considerable importance for this type of family: the per capita income of those who received such payments was 45% to 56% higher, depending on the number of children in these families, than that of families of the same type that did not receive them.

A comparison of the financial circumstances of payers and recipients confirms what was anticipated. First, alimony payments generally represent a smaller share of the income of payers than of recipients. The majority of recipients are from single-parent families and these support payments represent 19% of their average income. In comparison, the majority of payers are non-family persons or from husband-wife families and alimony payments represent only 9% of their average income.

Second, the income of payers is much higher than that of recipients: roughly double overall. Although this difference also reflects the income differential between men and women, the differential observed between payers and recipients is higher than in the general population.

In June 1990, justice ministers of federal, provincial and territorial governments announced the creation of the Child Support Guidelines Project to define the rules for determining child support payments. These changes in the rules and regulations will be directed at overcoming the weaknesses of the present system. □

The author wishes to thank Louise Dulude, a lawyer and specialist in women's issues, and Linda Standish, a senior research analyst in the Small Area and Administrative Data Division at Statistics Canada, for their valuable comments and suggestions in reviewing this paper.

Notes

¹ In this article, the term "alimony" refers to both spousal and child support.

² Men who head single-parent families generally have higher incomes than women in that family type, a situation that could inflate the data on the income of such families as a whole.

³ For more recent data or for more information on the concept of families used here, contact the Small Area and Administrative Data Division at Statistics Canada, R.H. Coats Building, 14th Floor, Tunney's Pasture, Ottawa, Ontario K1A 0T6; telephone (613) 951-9720.

⁴ Such lump-sum payments might represent net proceeds from selling the family home, half of the actuarial value of benefits from an employer's pension plan accrued during the marriage, and the apportionment of accrued pension credits in the C/QPP.

⁵ It is usually advisable to rely on both average and median values when using tax data. This is because extreme (positive or negative) values have greater weight on an average than other values. Consequently, the average can be skewed. (The median is the middle value of a distribution – in this case, all support payments – ordered from smallest to largest.)

⁶ In this article, income is that reported to Revenue Canada before deductions and before tax.

⁷ Individuals are considered to have labour market ties if they received income from employment or from Unemployment Insurance during the 1988 taxation year.

⁸ Social assistance includes non-taxable payments such as welfare and Mothers' Allowance. Other income includes investment, pension and rental income, and Family Allowance. Non-recipient single-parent families include approximately 2% of women 65 and over, eligible for pension income, along with 25% of widows, who cannot receive support payments.

⁹ The use of tax data generally warrants using average and median values.

¹⁰ These comparisons do not take into account the effects of taxes. On the payer's side, two effects are present: the payment is included in the payer's total income which is artificially inflated because the amount paid in alimony is not one that can be enjoyed by the payer. On the other hand, the amount paid can be deducted from his taxable income. For the recipient, the payment after taxes will be lower since the alimony received is part of taxable income, for those who pay taxes. Furthermore, for those eligible for social assistance, any alimony received often reduces the amounts paid by the social assistance program. This indirectly decreases the value of the alimony received.

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Perspectives on labour and income

The quarterly for labour market information

The changing profile of dual-earner families

Raj K. Chawla

In 1967, only one-third of husband-wife families had both spouses reporting earnings (dual-earner families). By 1989, dual-earner families represented 62% of all husband-wife families. The dramatic growth in the number of wives working outside the home has changed society's norm from a typical 1967 husband-wife family, with a husband as the breadwinner and a wife at home, to a dual-earner 1989 family with both spouses working outside the home. In 1989, 3.8 million wives were in dual-earner families compared with only 1.3 million in 1967. This article profiles the evolution of dual-earner families and examines changes in some of the relationships between the labour force participation of wives, the labour market experiences of husbands, and family characteristics such as the presence of children.

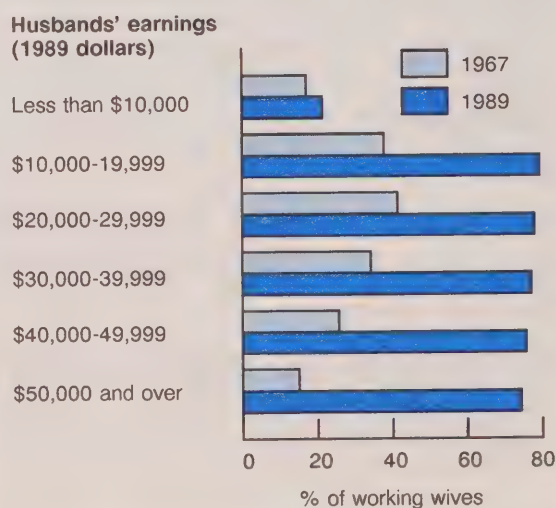
Impact of husbands' earnings has diminished

In the late sixties, the proportion of families with both spouses working peaked at 41% for husbands earning between \$20,000 and \$29,999 (all earnings and incomes are in 1989 dollars), and gradually fell to about 15% for those earning \$50,000 and over (see

Data source and definitions). By 1989, although the proportion was highest (at 80%) for husbands in the \$10,000 to \$19,999 earnings group, it declined only slightly (to 74%) for those earning \$50,000 and over. In both years, the proportion of families with both spouses working was lowest for husbands with earnings under \$10,000 – most of these husbands were either too old or too young to be in the labour force full time and/or full year (Chart A).

Chart A

More wives now work outside the home regardless of their husbands' earnings.



Source: Survey of Consumer Finances

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Data source and definitions

This article is based on data from the Survey of Consumer Finances of April 1968 and April 1990. The survey (annual since 1972) collects data on sources and amounts of incomes received in the preceding calendar year by persons aged 15 or older living in almost all private households in Canada (excluding the Yukon and Northwest Territories, Indian reserves, and institutions). Excluded from this study are families where military pay and allowances are the major source of income. For background details about the survey, see *Income distributions by size in Canada, 1989* (Statistics Canada: Catalogue 13-207).

Family: A family consists of two or more persons related by blood, marriage, or adoption, sharing a common dwelling unit. Thus, all relatives living together at the time of a survey are considered one family, whatever the degree of relationship. The article focuses on "dual-earner husband-wife" families (including common-law relationships) in which both spouses report some earnings (or losses from self-employment) during the reference year. Although the earnings status of other family members is not taken into account, their earnings are treated as part of the family's total income.

Earnings: Consists of income from wages and salaries, or net income from self-employment.

Total income: A family's total income is the sum of incomes received by all members aged 15 (14 in 1967) and over during the reference year. Income consists of earnings, cash transfers from all levels of government, investment income, benefits from private and employer-sponsored pension plans, alimony, and so on.

Excluded are gambling gains or losses, capital gains or losses, lump-sum settlements of insurance policies, tax rebates and all income in kind.

Investment income: Includes bond interest, dividends, bank interest, net rents and other investment income.

Transfer payments: Includes all social welfare payments received from federal, provincial and municipal governments.

Other money income: Includes retirement pensions, annuities, superannuation, alimony, and so on.

Note: All earnings and income are in 1989 dollars.

Occupation: Occupational classifications for 1989 are based on the 1980 Standard Occupational Classification (SOC) whereas for 1967 they are based on the 1961 classification. Therefore, some changes in the distributions of families by spouses' occupations may be attributable to changes in the SOC systems.

As well, working spouses are classified by their occupations at the time of the survey, which may not necessarily be the same as during the calendar year for which income data are shown.

Blue-collar occupations: Includes mining and quarrying; processing; machining; product fabricating; assembling and repairing; construction trades; transport equipment operating; material handling; and other crafts and equipment operating.

Full-year, full-time worker: A person who worked 30 hours or more a week (35 in 1967) for 49 to 52 weeks in 1989 (50 to 52 weeks in 1967) is considered a year-round worker in this article.

In terms of family incomes, the proportion of wives working in 1967 peaked (at 51%) in the \$40,000 to \$49,999 group. By 1989, however, the proportion of wives working climbed as family incomes rose (excluding families with incomes under \$10,000). For example, only one-third of families with incomes of \$70,000 and over had wives working in 1967 compared with four-fifths in 1989 (Table 1).

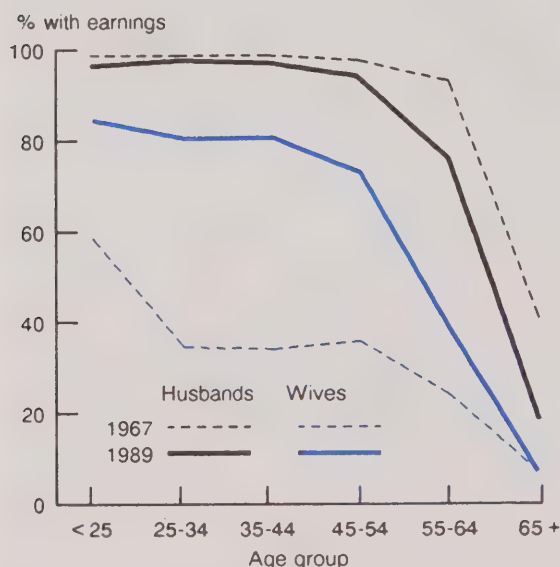
Presence of pre-school age children has less effect

The relationship between a wife's age, the presence of children and her participation in the labour force changed dramatically

between 1967 and 1989. In the sixties, most young married women entered the labour market, worked for a few years, and then left to raise families (only 27% of women with at least one child under 6 worked in 1967). Some then re-entered the labour market when their children were either old enough to look after themselves, or had left home. This resulted in a different relationship between age and the proportion of spouses with earnings (Chart B). By 1989, however, there was only a small difference by sex in the relationship between these two characteristics. Once in the labour force, wives were likely to continue working irrespective of the presence of pre-school age children (71% of these mothers worked in 1989).

Chart B

The relationship between age and the proportion of spouses with earnings has become more similar.



Source: Survey of Consumer Finances

Changes in profiles of spouses in dual-earner families

Work patterns

Various aspects of employment such as the percentages of spouses with earnings, work patterns, occupations, and levels of earnings have converged over time. For example, the proportion of dual-earner families with both spouses working year round rose from one-third in 1967 to about one-half in 1989. In each year, only a small fraction (under 4%) of families had both spouses working only part year. The remaining dual-earner families consisted of spouses with work patterns between these two extremes.

Occupations

Although the proportion of families with both spouses in managerial or professional

occupations rose from 6% in 1967 to 16% in 1989, the predominant occupational combination for working spouses remained blue-collar husbands with wives in clerical, service or sales occupations (about one-quarter).¹ In both years, only around 7% of families had both spouses employed in blue-collar occupations (Table 2). On the other hand, the proportion of families with both spouses employed in clerical, service, or sales occupations rose from 11% in 1967 to 14% in 1989. The increase in the proportion of husbands in these white-collar occupations can be traced to the declining number of blue-collar jobs traditionally held by men. The overall shifts in jobs of spouses reflect the changes in the industry-occupation mix that have occurred over the last two decades. For example, the shrinking manufacturing and expanding service sectors have resulted in fewer "goods-producing" but relatively more "service-producing" jobs.²

Earnings

In 1967, more than a third of all dual-earner families had husbands earning between \$10,000 and \$29,999 and wives earning less than \$10,000; by 1989, this proportion had dropped to one-eighth. With more wives working year round, and increasingly entering managerial or professional occupations, their earnings increased over the period. Consequently, the proportion of dual-earner families with wives earning \$30,000 or more and husbands earning \$40,000 or more rose to 7% in 1989 from almost none in 1967. Overall, 14% of working wives earned \$30,000 or more in 1989 compared with just 1% in 1967. Similar increases in earnings, however, did not occur for husbands. Over this 22-year period, the average earnings of husbands grew by 42% compared with a 76% jump for wives. Therefore, the gap in the earnings of working spouses has narrowed: working wives earned 52% as much as their husbands in 1989 compared with 42% in 1967.

Table 1
Husband-wife families by selected characteristics, 1967 and 1989

	All families		Families with both spouses working		Other families		Proportion of families with both spouses working	
	1967	1989	1967	1989	1967	1989	1967	1989
	'000							
All families	4,077	6,104	1,333	3,802	2,744	2,302	...	...
	%							
Total	100	100	100	100	100	100	33	62
Family income								
Under \$10,000	7	1	2	1	9	3	10	25
\$10,000 - \$19,999	19	10	9	3	24	20	16	20
\$20,000 - \$29,999	27	12	23	8	28	19	28	41
\$30,000 - \$39,999	22	15	29	14	18	17	43	58
\$40,000 - \$49,999	13	16	20	17	9	14	51	66
\$50,000 - \$59,999	6	13	9	16	5	9	50	74
\$60,000 - \$69,999	3	10	4	13	3	6	43	79
\$70,000 and over	4	22	4	28	4	11	33	81
Husbands' earnings								
Under \$10,000	20	26	10	9	24	55	17	22
\$10,000 - \$19,999	23	13	26	16	21	7	38	80
\$20,000 - \$29,999	33	17	42	21	29	10	41	78
\$30,000 - \$39,999	14	18	15	22	14	11	35	77
\$40,000 - \$49,999	5	13	4	16	6	8	26	76
\$50,000 and over	5	13	2	16	6	9	15	74
Presence of children								
None	26	37	32	30	24	49	39	50
At least one child under 6	38	23	31	26	41	18	27	71
Children 6 years and over	36	40	38	44	35	33	34	69

Source: Survey of Consumer Finances
See Data source and definitions.

Despite women's progress in the labour market, one-third of dual-earner families still had wives earning less than \$10,000 in 1989. In fact, families with both spouses earning under \$10,000 constituted 5% of all dual-earners in 1989 compared with 7% in 1967, implying almost no change at the bottom end of the earnings scale.

The proportion of dual-earner families with husbands earning under \$10,000 remained almost the same between 1967 and 1989, whereas the proportion with husbands earning \$50,000 and over rose eightfold. The proportion of families with husbands earning between \$20,000 and \$39,999,

however, dropped from 57% in 1967 to 43% in 1989 (Table 3). In terms of husbands' earnings, then, dual-earner families became more polarized between 1967 and 1989.

Wives' earnings improved over time as the proportion of families with wives earning under \$10,000 dropped from 56% in 1967 to 34% by 1989. In 1989, more than half of all families had wives earning between \$10,000 and \$29,999 (Table 3). Since the majority of wives remained employed in clerical, service and sales occupations, which provide comparable remuneration, their earnings would show less variation than those of their husbands.

Table 2

Average earnings and incomes of dual-earner families by occupation of spouse, 1967 and 1989

	1967				1989			
	Distribution of families	Family income	Husbands' earnings	Wives' earnings	Distribution of families	Family income	Husbands' earnings	Wives' earnings
	%	\$	\$	\$	%	\$	\$	\$
Total*	100	37,400	23,600	9,800	100	59,800	33,500	17,200
Wife managerial/professional								
Husband managerial/professional	6	52,500	30,800	18,200	16	79,600	45,400	26,400
Husband clerical/sales/service	3	44,000	23,400	17,600	6	63,500	32,600	23,900
Husband blue-collar	5	42,200	23,800	15,200	9	60,000	31,700	20,700
Wife clerical/sales/service								
Husband managerial/professional	10	44,800	29,600	11,400	13	67,800	42,400	15,800
Husband clerical/sales/service	11	36,700	21,900	11,100	14	54,400	29,300	15,300
Husband blue-collar	22	36,400	23,000	9,400	25	52,300	30,600	13,100
Wife blue-collar								
Husband managerial/professional	1	43,800	30,200	10,600	1	58,700	36,000	12,400
Husband clerical/sales/service	2	36,800	19,000	10,800	2	51,900	25,500	15,000
Husband blue-collar	8	36,900	20,800	10,800	7	51,900	27,400	14,500

Source: Survey of Consumer Finances

* Includes agriculture, fishing and trapping, forestry and logging, persons who could not ascertain their occupations, and persons who last worked more than five years ago.

Increasing similarity in characteristics of working spouses

Spouses tend to be close in age and education. Similarity in these demographic characteristics may account for comparable work patterns or choices of occupations, but this does not, however, imply identical earnings. For instance, both spouses may be young, have university degrees, work year round, and be in professional occupations, but one may be a lawyer and the other a teacher – occupations with quite different average earnings.

Table 3
Distribution of dual-earner families by husbands' and wives' earnings, 1967 and 1989

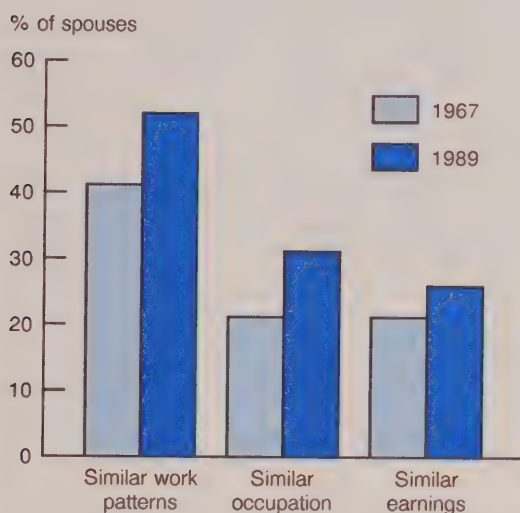
	Husbands' earnings		Wives' earnings	
	1967	1989	1967	1989
Total	100	100	100	100
Under \$10,000	10	9	56	34
\$10,000 – \$19,999	26	16	34	30
\$20,000 – \$29,999	42	21	9	22
\$30,000 – \$39,999	15	22	1	9
\$40,000 – \$49,999	4	16	–	3
\$50,000 and over	2	16	–	3

Source: Survey of Consumer Finances

In 1967, 41% of working spouses had similar work patterns, 21% were in similar occupations, and 21% received comparable earnings. By 1989, these proportions had grown to 52%, 31%, and 26% respectively. While the work experience and occupations of wives are now more comparable to those of their husbands, their earnings have continued to lag behind (Chart C).

Chart C

The work patterns of spouses are more similar than their earnings.



Source: Survey of Consumer Finances

Working spouses' contributions to family incomes

Husbands' earnings dropped from 63% of dual-earner families' total incomes in 1967, to 56% in 1989. Over the same period, however, the relative share of wives' earnings rose by only 3 percentage points – from 26% to 29%. Despite the growing number of working wives in dual-earner

families, the proportion of family income coming from employment fell between 1967 and 1989. On the other hand, the relative shares of transfer payments (such as Unemployment Insurance benefits and various refundable tax credits) and investment income increased over the same period (Table 4).

Wives' contributions to dual-earner family incomes tends to depend on how much of the total family income is derived from husbands' earnings. For example, in 1967, wives' earnings accounted for 28% of family incomes when their husbands earned \$10,000 to \$29,999 and 14% when their spouses earned \$50,000 or more (Table 5). By 1989, the corresponding contributions were 35% and 22%. Indeed, the change in wives' contributions was more pronounced for families with husbands with higher earnings than for families with husbands in the low to middle earnings groups. Most husbands in the upper earnings groups are in managerial or professional occupations and so are their wives.

Table 4
Composition of income of dual-earner families, 1967 and 1989

	1967	1989	Change
	\$		%
Average family income	37,400	59,800	60
	%		in percentage points
Total income	100	100	...
Earnings	95	91	-4
Husbands	63	56	-7
Wives	26	29	3
Other family members	6	6	-
Investment income	1	3	2
Transfer payments	3	5	2
Other money income	1	1	-

Source: Survey of Consumer Finances

Table 5
Spousal contributions to family income by selected characteristics, 1967 and 1989

	1967			1989		
	Average family income	Earnings as % of family income		Average family income	Earnings as % of family income	
		Husbands'	Wives'		Husbands'	Wives'
	\$	%	%	\$	%	%
All dual-earner families	37,400	63	26	59,800	56	29
Family income						
Under \$10,000*	...	...	...	...	...	...
\$10,000 - \$29,999	22,700	68	23	23,000	48	28
\$30,000 - \$49,999	38,800	65	27	40,600	58	29
\$50,000 and over	64,300	57	26	78,200	56	29
Husbands' earnings						
Under \$10,000*	...	...	...	...	...	...
\$10,000 - \$29,999	34,900	61	28	44,400	46	35
\$30,000 - \$49,999	50,700	72	21	64,800	60	28
\$50,000 and over	85,200	81	14	101,700	68	22
Husbands' age						
Under 25	29,900	64	34	36,800	57	34
25 - 34	36,100	67	28	50,100	59	31
35 - 44	39,100	66	25	62,800	59	30
45 - 54	41,500	61	23	69,700	54	26
55 - 64	37,800	55	25	64,300	47	25
65 and over	28,600	...	...	68,100	...	...
Wives' age						
Under 25	31,700	66	32	38,900	59	31
25 - 34	36,500	68	27	52,600	60	31
35 - 44	40,600	64	24	65,400	58	29
45 - 54	40,700	58	25	70,600	51	26
55 - 64	36,100	53	27	61,400	46	25
65 and over	35,300	...	...	68,600	...	...

Source: Survey of Consumer Finances

* Includes families with husbands who were self-employed or in farming occupations and who reported negative or no net earnings.

Families with both spouses in managerial or professional occupations are also referred to as "two-career families." American studies have shown that spouses in these families are likely to work year round, have greater job commitment, have children at later ages, and cope better with family and work-related stress.^{3,4} In addition, these families have higher incomes than other dual-earner families - \$52,500 in

1967 and \$79,600 in 1989 on average, compared with \$36,400 and \$52,300 for families with husbands in blue-collar occupations and wives in clerical, service or sales occupations (Table 2). In both 1967 and 1989, wives in managerial or professional occupations contributed relatively more to family incomes than wives in clerical, service or sales occupations.

Conclusion

The phenomenal growth of dual-earner families over the 1967 to 1989 period has caused a subtle revolution in society. Almost every sector of the economy has changed in order to accommodate the new dual-earner norm. For instance, flexitime, shiftwork, compressed workweeks, and child care services are becoming more popular.

Commercially, shops and services are open longer, ready-to-serve food is widely available, and household maintenance services are now common. Many of these services did not even exist in 1967.

Governments have also been affected. Although they receive more income (direct and indirect taxes from additional workers), they must provide more in public pensions, transfers and services. □

Notes

¹ Spouses have been classified by their occupations at the time of the survey, which may not be the same as for the previous calendar year for which earnings and family income data are shown. Although only three main occupational groups were used (managerial and professional; clerical, service, sales; and blue-collar – production, processing, fabrication, construction, transportation, etc.), data by ten occupational groups are available.

Some changes over time in the occupation-mix of working spouses can be due to changes in the Standard Occupational Classification (SOC) system used, that is, 1961 SOC for the 1967 data, and 1980 SOC for the 1989 data. The 1980 SOC, for example, categorized persons performing managerial functions in the agriculture, retail trade, insurance industries, and so on, as managers, whereas previously they were coded to occupations such as farmers, sales, service, and so forth. For more details about the effect of changes in occupational/industrial classification systems, see *The labour force* (Statistics Canada, Catalogue 71-001, January 1984 issue).

² Such structural changes in the Canadian economy have affected men more than women as the number of blue-collar jobs traditionally held by men declined with the shrinkage of the manufacturing industries.

³ See Bird and Bird, 1987; Schnittger and Bird, 1990; Skinner, 1980; Soloway and Smith, 1987; and Rachlin, 1987.

⁴ According to Hiller and Dyehouse (1987), the dual-career marriage "is a new prototype that reflects the increasing educational and career aspirations of women When dual-career is differentiated from dual-earner, the definitions and/or the operationalizations of career are extremely varied." Rachlin (1987) noted that "within this marital situation are two career-committed individuals, neither automatically assuming that he/she will subordinate career interests to those of a partner and both of whom are committed to combining professional and family roles."

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Studying on the job

Susan Crompton

In today's highly competitive and rapidly changing global economy, among the attributes employers value most in their workers are high levels of skill, flexibility and adaptability. These requirements have led to much discussion in recent years about the quality and adequacy of the education and training of Canada's labour force. On one side of the debate, statistics show that Canada lags behind other countries: training expenditures as a percentage of the gross domestic product (GDP) are comparatively low, and in 1990 the Organisation for Economic Co-operation and Development (OECD) ranked Canada 16th among its 23 member nations with respect to its vocational training. In 1986-87, fewer than one-third of Canadian firms provided formal training to their workers, and among those that did, spending per employee was half what it was in the United States (Sharpe, 1990). At the same time, figures show a sharp acceleration in the number of adults enrolling in credit courses for vocational certificates, college diplomas and university degrees. And there is no sign that this trend is slowing down (Haggard-Guénette, 1991).

Using the results of the 1990 Adult Education and Training Survey (AETS), this

article describes some of the characteristics of those paid workers who received part-time training from their employers, the industries they worked in, the jobs they held, and the subjects they studied.

One in seven workers took training

In the 12-month period from December 1989 to November 1990, over 1.5 million Canadian workers over the age of 16 took education or training courses that were sponsored by their employers. The majority (88%) actually took part-time training. These 1.3 million people accounted for 14% of the paid workforce in 1990, or almost one in seven employees. (See *Notes about the data* and *Definitions* for the concepts used in this study.)

The highest rate of employer-sponsored part-time training in the country was recorded in Alberta (18%), and the lowest in Newfoundland (8%). These figures reflect the types of industries concentrated in the provinces, which have varying rates of training (Chart A).

Although studies in other countries show that men received more formal employer-sponsored training than women, that is not the case in Canada. Almost equal proportions of Canadian working men and women were likely to take courses; that is, 14% of male and 13% of female employees received training during the survey reference period.

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Notes about the data

Data source

This study is based on the 1990 Adult Education and Training Survey (AETS), a supplement to the November 1990 Labour Force Survey (LFS) sponsored by Employment and Immigration Canada. Respondents in about 50,000 households, and representing almost 93,000 individuals, were interviewed about any educational or training courses they, or other household members 17 years of age and over, had taken in the preceding 12 months (December 1989 to November 1990). They were asked what type of education or training they had taken: full-time academic program; apprenticeship program; full-time employer-related training (excluding apprenticeship); or short-term or part-time courses. Respondents were then asked to describe the subject matter of the most recent course taken; any financial and non-financial assistance received and the source of that assistance; and the main reason for taking the course. (For more information on the 1990 AETS, and the recently-completed 1992 AETS, see Statistics Canada, 1990 and 1992.)

Data on educational attainment, occupation, industry and job tenure (the number of years working for the employer) describe the individual's labour market situation during the LFS reference week. Data on firm size are from the AETS, and represent the individual's perception of the firm's size at the time the course was taken.

Population

This study focuses on the 1.3 million paid workers who took employer-sponsored training on a part-time basis during the AETS reference period. It covers only paid workers, but does not distinguish full-time from part-time workers. (Part-time employees comprised only 6% of employer-sponsored workers taking part-time training.)

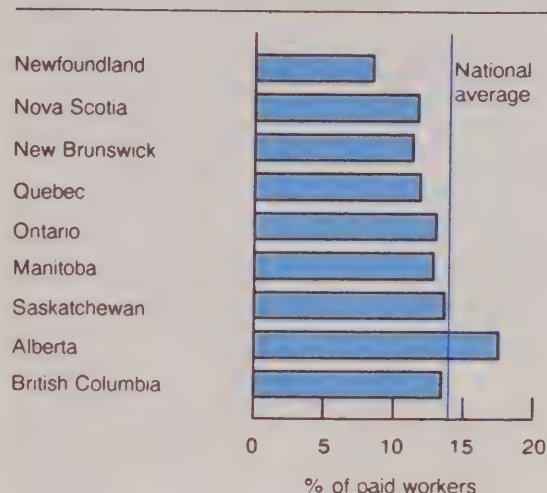
Full-time employer-sponsored education and training is not discussed in this article. The full-time category of education and training contains three components that represent a very mixed population. Given the considerably different characteristics of the full-time and part-time populations, a comparison of the two would not have done justice to either group.¹

Utilities and public administration biggest trainers of employees

Industries that placed the highest priority on training, as judged by the percentage of employees they trained, were utilities (31% of the workforce received training) and public administration (28%). Several service

Chart A

Workers in Alberta were the most likely to take employer-sponsored training in 1989-1990.



Sources: Adult Education and Training Survey and Labour Force Survey

Note: Estimates for Prince Edward Island cannot be released due to high sampling variability.

industries had rates at the low end of the scale – trade (9%) and commercial services (8%). This may reflect the heavier reliance of these industries on part-time workers as well as the presence of smaller firms, which record lower formal training rates. Manufacturing industries, at 11%, also had below average training rates (Table 1).

Training rates higher in larger firms

The chances of receiving employer-sponsored training rise as the size of the firm increases. From a low of 6% for small firms with less than 20 employees, the rate of training rose to 11% for medium-small and 15% for medium-large firms, and then reached 22% for companies with 500 or more employees (Chart B).

Definitions

Training – A course or program in which the employee was a student. Data on informal and on-the-job training were not collected by the 1990 AETS.

Employer-sponsored – Training assisted in whole or in part by the employer. The employer's assistance may have consisted of paying tuition, providing courses at the work site, allowing the employee paid time off to attend class, reimbursing transportation or living expenses, paying for course materials, and so on.

Part-time training – It comprises two components: part-time and short-term courses. *Part-time* courses are taken on a regular basis and generally last more than one month. These courses, taken by employer-sponsored workers, lasted an average of seven weeks. Just over half the workers enrolled in part-time training in 1989-90 took these types of courses. *Short-term* courses are taken over a period of less than one month and usually require attendance for a considerable part of the working day or week. These courses lasted an average of one week and students attended for 21 hours per week. A little less than half of all part-time trainees took short-term courses.

Course – The most recent course taken. It may not have been the only course taken by the respondent during the 12-month reference period. It is the one the respondent described in the 1990 AETS as to subject matter, employer sponsorship, and course duration.

Firm size – The respondent's perception of the total number of workers employed by the company across Canada. This study classifies firms into four size categories: small firms – fewer than 20 employees; medium-small firms – 20 to 99 employees; medium-large firms – 100 to 499 employees; and, large firms – 500 or more employees.

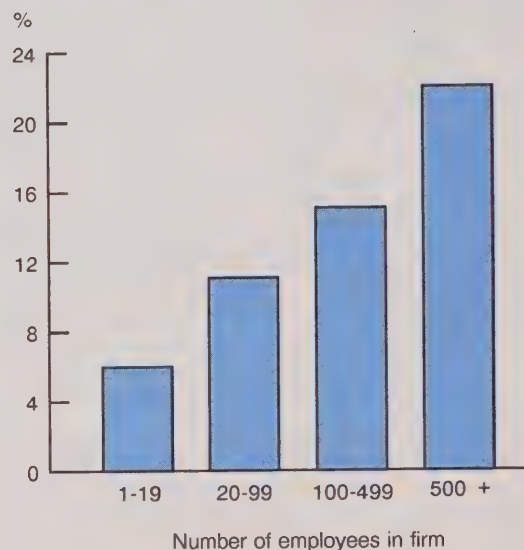
About 9% of respondents "did not know" the size of the firm. These workers are included in the totals.

Service industries – Community services include education, health, social services and religious organizations; commercial services include accommodation, food and beverage, business services, other services (including amusement and recreation, personal and household services).

The reasons why formal training rates are higher in larger firms vary according to the industry in which the firm operates and the particular circumstances of the organization itself. But one of the most likely reasons is that they have a larger internal labour market. Training provides the worker with

Chart B

Workers in large firms were more likely to receive employer-sponsored training in 1989-1990.



Sources: Adult Education and Training Survey and Labour Force Survey

greater opportunities to change jobs or seek promotion within the company, rather than looking to another firm for advancement, and thus reduces the chances that the company's training investment will be lost to a rival organization. Another advantage enjoyed by workers in large firms is that per capita costs of training may be lower if the firm can train a number of workers at the same time using a kind of "group discount"; hence, training is more readily available to employees. Also, since large organizations are more heavily unionized than smaller ones, high rates may stem from union pressures to provide worker training. And this also reflects the triple-the-average rates of the utilities and public administration industries, which are characterized by large organizations.

Since the AETS did not collect data on informal, on-the-job training, the figures undoubtedly underrepresent the total amount of training provided by employers, especially in smaller firms.² In fact, some international studies show that when informal, on-the-job training is covered, training rates are very similar for all firms regardless of size.

Professionals get more training

People in white-collar³ occupations received more employer-sponsored training than others, with those in natural sciences most likely to benefit (28%). Rates almost as high (25%) were reported for workers employed in social sciences and managerial or administrative positions. High rates were also found in all white-collar occupations, usually jobs that require a higher level of education (Table 1).

High training rates for managers and professionals reflect a number of factors, among them the need to remain current with developments in their field of expertise and to acquire new skills to meet changing job requirements (for example, learning to use new computer software or to manage the introduction of new technologies). However, it should be noted that people in these positions have input into training decisions, so that some degree of "self-selection" may explain the high rates observed in the professional occupational groups.

Lower-than-average rates of employer-sponsored part-time training were generally recorded among workers in pink-⁴ and blue-collar⁵ occupations. For instance, only 7% of workers in service and machining jobs took courses at company expense. The only notable exception was in mining occupations, where 20% of workers received employer-sponsored training.

Table 1

Training rate of paid workforce in employer-sponsored part-time training, by selected characteristics, 1989-1990

	All trainees	Training rate
	'000	%
All industries	1,334	14
Agriculture	--	--
Forestry, fishing and mining	41	16
Manufacturing	217	11
Construction	25	4
Transportation	63	15
Communication	50	19
Utilities	43	31
Trade	146	9
Finance, insurance and real estate	133	22
Community services*	292	17
Commercial services*	116	8
Public administration	202	28
All occupations**	1,334	14
Managerial and administrative	323	25
Natural science	109	28
Social science	43	25
Religion	--	--
Teaching	70	17
Medicine	89	19
Artistic	12	10
Clerical	231	13
Sales	83	10
Service	78	7
Farming	--	--
Fishing	--	--
Forestry	--	--
Mining	11	20
Processing	24	6
Machining	15	7
Fabricating	111	12
Construction	49	8
Transportation	40	10
Material handling	14	5
Other crafts	15	11
All levels of education	1,334	14
Grades 0 to 8	25	3
Some secondary education	98	5
High school graduation	284	12
Some postsecondary	133	18
Postsecondary certificate or diploma	471	19
University degree	324	25

Sources: *Adult Education and Training Survey and Labour Force Survey.*

* See Definitions.

** Includes occupations in religion, farming, forestry and fishing.

The high level of training among white-collar occupations is mirrored in the rates reported for better-educated workers. One in every four employees with a university degree (25%) received some employer-sponsored training; 19% of workers with a postsecondary certificate or diploma also took courses at company expense. Workers without secondary school credentials had only a 4% chance of receiving employer-sponsored training (Table 1).⁶

Trainees most likely to be "loyal" employees

Almost one in six workers (16%) aged 35 to 44 took part-time training. The rate was slightly lower for the 25 to 34 age group. Workers in their early twenties and those over 54 were only half as likely to get employer-sponsored training (8%).

These rates for workers of different ages are reflected in the figures for job tenure: employees having 11 to 20 years of service with the same firm were most likely to receive training (17%). This was about double that for employees with seniority of one year or less. Workers with over 25 years' seniority also recorded a lower rate (12%), perhaps because they had received all the training necessary for their jobs. Alternatively, they may have been at the top of their profession, or nearing retirement, and did not feel the need to take training to further their careers.

Commerce courses most popular

Employers enroll their employees in courses for any number of reasons, but the content of the courses they choose to sponsor usually reflects the work trainees do. Some of the other reasons probably hinge on the worker's value to the firm, the organization's goals and the availability of a training program.

Table 2
Training rate of paid workforce in employer-sponsored part-time training, by job tenure and age, 1989-1990

	All trainees	Training rate
	'000	%
Total	1,334	14
Job tenure		
1 year or less	220	8
2-5 years	419	13
6-10 years	234	15
11-15 years	197	17
16-20 years	137	17
21-25 years	70	15
26 years or more	58	12
Age		
17-19	13	2
20-24	99	8
25-34	481	15
35-44	453	16
45-54	219	13
55-64	68	8

Sources: *Adult Education and Training Survey and Labour Force Survey*

Commerce, management and business administration courses were the most popular among employer-sponsored students during the survey reference period. Workers enrolled in this category accounted for 29% of all employer-sponsored part-time training. Within that field, financial management claimed the most students, with business and commerce ranking second. Industrial management and administration, and marketing, merchandising, retailing and sales were tied for the third highest level of enrolment (Table 3).

The second most popular field of study (26% of enrolment) was engineering and applied science technologies and trades, which encompasses computer technology. The majority of employees took data processing and computer science technologies courses, reflecting the demands of the

new computerized workplace, while the second highest enrolment was in mechanical engineering technologies. Courses in the general category of health science and technologies claimed the third largest group of trainees (14%).⁷

Enthusiasm for courses in both commerce and engineering technologies did not vary significantly by firm size. Enrolment in commerce was higher than average among large firms, while small firms placed heavier emphasis on engineering and applied science technologies and trades.

More female trainees took commerce and data processing courses

One-third of women took commerce courses, compared with one-quarter of male trainees (Chart C). Within this discipline, the largest group of women was in financial

management; however, women's enrolment in secretarial science was almost as high.

Engineering and applied science technologies and trades accounted for about 20% of women and 31% of men. Although both sexes heavily enrolled in data processing and computer science technologies courses, the subject was twice as popular with women as with men.

Who gets training – the international picture

Comparing statistics on training across national boundaries can be difficult and at times misleading. This is because definitions of training, the survey instruments, sample selection, social institutions, labour market conditions and even classifications or aggregations of industries and occupations, are as diverse as the countries collecting the data.⁸

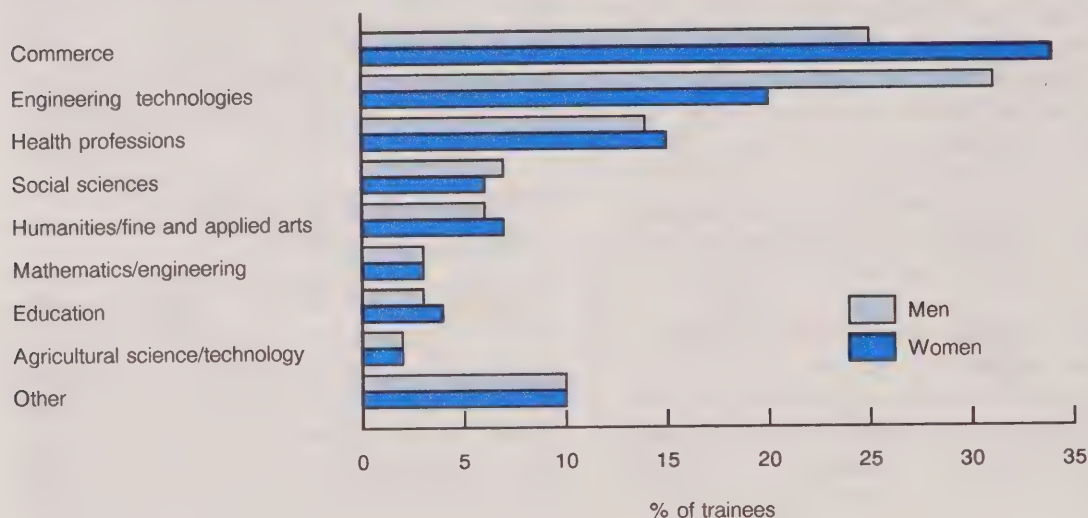
Table 3
Distribution of employer-sponsored trainees enrolled in commerce and engineering technologies courses, by sex, 1989-1990

	All trainees	Distribution		
		Both sexes	Men	Women
	'000		%	
Commerce, management and business administration	381	100	100	100
Financial management	103	27	23	31
Business and commerce	70	18	24	13
Industrial management and administration	69	18	21	15
Marketing, merchandising, retailing and sales	69	18	24	13
Secretarial science	63	17	6	26
Institutional management and administration	--	--	--	--
Engineering and applied science technologies and trades	346	100	100	100
Data processing and computer science technologies	179	52	37	80
Mechanical engineering technologies	43	13	18	--
Industrial engineering technologies	26	8	10	--
Electronic and electrical technologies	26	7	10	--
Transportation technologies	22	6	7	--
General and civil engineering technologies	18	5	6	--
Building technologies	11	3	5	--

Sources: Adult Education and Training Survey and Labour Force Survey

Chart C

In 1989-1990, the majority of employer-sponsored trainees took courses in commerce or engineering technologies.



Sources: Adult Education and Training Survey and Labour Force Survey

Nevertheless, a comparison of results can provide a useful frame of reference. The OECD recently reviewed international data collected on employer-sponsored worker training in member countries and drew the following general conclusions:

- The rate of formal training is higher in large firms.
- The rate of training varies considerably across industries and countries but, generally speaking, non-durable manufacturing industries have lower rates of training, while financial industries have higher rates.
- Well-educated workers are much more likely to receive employer-sponsored training.
- Women are less likely than men to receive formal training.

- The chances that a worker will receive training fall with age, especially in countries with strong apprenticeship programs.

Canada seems to conform to these basic trends, the only exception being the training rates observed for men and women, which the AETS results show were almost the same for male and female paid workers.

Conclusion

The evidence from the AETS appears to show that a "natural selection" process operates in regard to training, whereby those who already have some advantages, such as a better education or a white-collar job, continue to acquire advantages related to training.

About one in seven paid workers in Canada, or 1.3 million, received employer-sponsored part-time training in the 12 months from December 1989 to November 1990. Employees in utilities and public administration were most likely to take employer-sponsored courses, with well over one-quarter of each of these industry's workforces undertaking such training. The likelihood of being trained by an employer rose from 1 in 16 in a small firm to 1 in 5 in a large one. Workers in managerial, administrative, natural science and social science occupations were most likely to benefit, as were workers who had 11 to 20 years' seniority with their employer. Almost 70% of trainees enrolled in three fields of study: commerce and business management, engineering and applied science technologies and trades (mainly data processing and computer science), and health professions.

Almost equal proportions of men and women received training (14% and 13% respectively), and although both sexes tended to enroll in the same narrow group of subjects, women were more likely to take

commerce and business administration courses, while men most frequently opted for courses in engineering and applied science technologies and trades.

This article presents a brief description of the characteristics of paid workers who receive employer-sponsored part-time training. But the issues raised by worker training are complicated and often controversial. Who should be trained? In what fields of study should they be trained and by whom? What is the best method, and how should it be paid for? Everyone benefits from a productive workforce: individuals hold good and stable jobs, businesses enjoy higher profits, and Canada sustains a strong economy. But it has yet to be resolved how the beneficiaries should divide the responsibility for educating and training that productive workforce. □

The author wishes to thank Patricia Mosher of Employment and Immigration Canada, and Stephen J. Arrowsmith of Special Surveys Group, Household Surveys Division, for their valuable comments and suggestions in reviewing this paper.

Notes

¹ The full-time group itself is not homogeneous and exhibits disparate characteristics. For example, about 60% of trainees in academic programs and employer-related training already have college or university degrees but only 36% of apprentices do; 90% of apprentices are under the age of 35 compared with 56% of workers in the other types of full-time training.

² The 1992 Adult Education and Training Survey will collect data on formal and informal on-the-job training.

³ White-collar jobs are defined as those falling into the broad occupational categories of managerial or administrative, natural science, social science, religion, teaching, medicine and artistic.

⁴ Pink-collar jobs are defined as clerical (81% female employees), sales (47%) and service (57%) occupations.

⁵ Blue-collar jobs are found in the following broad occupational categories: farming, fishing, forestry, mining, processing, machining, fabricating, construction, transportation, material handling and other crafts. The majority of workers in these occupations are male.

⁶ In her study of adults aged 30 to 64 taking credit courses, Haggard-Guénette (1991) found that higher levels of education were strongly associated with the return to school. In *Adult literacy in Canada: results of a national study*, Statistics Canada (O'Neill and Sharpe, 1991) showed that the jobs of poorly educated workers are disappearing more quickly than others, and that employment opportunities for those with less than secondary school qualifications deteriorated significantly during the 1980s.

⁷ About 45% of workers who received employer-sponsored training took short-term courses; the remainder were enrolled in part-time courses. The subject matter of the courses taken by each of these groups is almost identical. Commerce and engineering and applied science technologies and trades both claimed almost the same proportion of short-term as part-time students. The only notable differences appear in four fields of study that, taken together, accounted for only 16% of students: social sciences, humanities, education, and industrial engineering technologies.

Notes – concluded

⁸ This general profile of workers receiving employer-sponsored training is based on studies conducted in a number of OECD countries, among them: Australia, France, Germany, Japan, the United States, Great Britain, Sweden, several other European Community countries, and Canada. The studies reflect the surveys' sponsors (from statistical agencies to private researchers), a variety of collection techniques, different survey objectives, and the particular circumstances of the country in which they were conducted. Arriving at a portrait with features common to a number of countries

is difficult, as can be demonstrated by a partial list of "irreconcilable differences." Some countries included informal on-the-job training as well as formal classroom courses in their definition of training; some studies collected data using labour force surveys while others used administrative data; some data were collected at the enterprise (firm) level and other data at the establishment (plant) level. (The complete review of international training surveys can be found in Chapter 5 of the 1991 OECD *Employment Outlook*.)

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Workers on the move: An overview of labour turnover

Georges Lemaitre, Garnett Picot and Scott Murray

During 1988, 4.6 million workers either left or were permanently laid off from their jobs.¹ In addition, there were 1.8 million temporary separations, with workers returning to their jobs after an absence. Together these translate into almost 5% of employed persons separating from their jobs on average each month. The number of hirings during 1988 was also large (5 million), and accounted for about one-third of all jobs held at any time during the year.

This is worker turnover on a tremendous scale, and is typical of the Canadian labour market during an average year. Until recently (Robertson, 1987 and 1989; Baldwin and Gorecki, 1990; Picot and Baldwin, 1990a and 1990b), relatively little was known about labour turnover. Several new or untapped data sources over the past several years (see *Appendix*) are opening this area to analysis, and promise to enhance our knowledge of the labour market.

Because of data limitations, the labour market generally has been portrayed as static. That is, traditional data sources can convey the structure of the labour force

at a given time (the distribution of employment and unemployment by age, sex, industry, occupation, full-time/part-time) and trends over time (the growth in part-time employment, in women's participation or in service-sector employment; the decline in the share of manufacturing employment), but reveal little about the process by which change has occurred. Among the questions which cannot be addressed with these data sources are: How many job vacancies are filled by persons changing jobs and how many are from the ranks of the unemployed? To what extent is unemployment a "chronic condition," that is, to what extent is it concentrated among persons who are repeatedly subjected to periods of unemployment? How much mobility is there in the labour market? How much of it is "forced" and how much is voluntary? What industries and occupations are most affected and why? And, what is the connection (if any) between turnover and industry growth and decline?

Answering these questions would shed light on how the labour market operates in reallocating labour from certain firms and industries or occupations to others, and on how workers themselves are affected by either adverse or favourable economic conditions. In the best of times, it would be important to understand this process. In the current context of heightened international competition, technological change, an aging population and especially budgetary restraint, it is crucial. Among other reasons,

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Turnover – terminology and definitions

The term "**turnover**," although commonly used, does not have a set meaning. When an employer uses the term, it generally means **employee turnover**, that is, the loss of employees to other firms or other activities (quits), often entailing the cost of hiring and training new staff. On the other hand, an economist interested in labour market adjustment might use the term to describe **job turnover**, that is, the permanent loss of jobs in certain firms or industries, and the creation of new ones in others. Still another use of the term groups hirings with persons who have lost their jobs as a result of layoff and persons who leave voluntarily, to obtain an aggregate measure of the number of persons "turning over" at a set of jobs. In order to avoid the confusion resulting from the multiple uses of the term, this article will examine turnover in terms of its components, namely **quits, layoffs and hirings**.

In discussing separations, it is important to distinguish between worker-initiated (quits) and firm-initiated (layoffs) separations. **Quits** can occur for job-related reasons, because workers seek more pay, greater opportunities for promotion and training, better working conditions, or other features of the job. They can also occur for personal reasons, as a result of illness, a return to school or a pregnancy. Generally, quits do not entail permanent job loss, except perhaps when firms take advantage of them to downsize or when they occur in anticipation of an eventual layoff.

it is important to identify distortions that impede the efficient allocation of labour, to understand how to smooth the process of adjustment following layoff and to better target available resources to problem areas and groups. In addition, turnover data are useful in providing firms and industry groups with a point of comparison for their own labour turnover, and as a general indicator of labour market conditions.

This article is a general overview of turnover in the Canadian labour market. Its purpose is to present some background to the subject, as well as some preliminary findings. Some of the questions raised above will be addressed in more detail in the following article and in the Autumn 1992 issue.

Layoffs are driven by a different set of events from those associated with quits. Layoffs are often associated with **permanent job loss** as a result of a decline in business activity, firm closures, technological changes, redundancies created by mergers, cost-cutting measures and other reasons related to the economic situation of the firm. On the other hand, layoffs may mean only **temporary job loss**, as they often do in seasonal industries, as a result of temporary declines in business activity or shortages of materials or equipment. Other firm-initiated separations include those from temporary jobs, when the layoff occurs at the end of a specified term or when a particular task is completed.

Hirings represent the other side of the turnover phenomenon. Hirings can fill either new jobs or jobs vacated or freed up by a quit or a retirement. In practice, the distinction between a new job and an existing one is difficult to make. Hirings may also fill permanent or temporary jobs, a distinction that is of special interest, as it can reveal, in connection with data on full-time and part-time hiring and contracted-out activities, how firms and industries manage their labour needs. Hiring data can also present a picture of what the labour market looks like to potential job seekers. Hirings represent the job vacancies filled during the year, and thus could be used to establish a "profile" of the labour market, although this profile would not include unfilled vacancies.

The term **person-job** will appear on occasion in this article. A person-job is one job held by one person in a specific firm. The same person could hold more than one job in different firms over the year; each would count as one person-job.

An overview of hirings and separations

In 1988, there were about 5 million hirings in Canada. Of these, fully 70% were for full-time jobs and approximately 76% for permanent jobs (Table 1). By contrast, in an average month about 81% of paid workers were employed full time and 96% were in permanent jobs (see notes to Table 1 and *Appendix*). Thus hiring in 1988 was disproportionate for part-time and temporary employment.

In addition, of the jobs being held at any one time, 3.7% on average were held by persons hired during the current month. Indeed, of the 15.3 million person-jobs held during 1988, about one-third started during

Table 1
Hirings and separations, 1988

	Number	Percentage of total hirings	Monthly hiring rate*
	'000	%	%
All hirings	4,984	100	3.7
Permanent jobs**	3,770	76	2.9
Full-time	2,547	51	2.4
Part-time	1,223	25	5.0
Temporary jobs**	1,214	24	25.6
Full-time	933	19	24.6
Part-time	281	6	29.6
	Number	Percentage of total separations	Percentage of monthly jobs***
	'000	%	%
All separations	6,354	100	4.8
Permanent separations	4,595	72	3.4
Quits†	2,868	45	2.1
For economic reasons	1,998	31	1.5
For non-economic reasons	871	14	0.7
Layoffs	1,172	18	0.9
Other††	555	9	0.4
Temporary separations	1,760	28	1.3
Layoffs	595	9	0.4
Other††	1,165	18	0.9

Source: Labour Market Activity Survey

See Appendix for definitions.

* Hirings per month as a percentage of average monthly person-jobs of the same type.

** Because the temporary/permanent distinction was available only for 1986, the distribution of temporary and permanent jobs that year has been applied to the 1988 data. Caution should be exercised in interpreting these results, since the relative proportions of permanent and temporary jobs in 1988 may be somewhat different.

*** Separations per month as a percentage of average monthly person-jobs of all types.

† "For economic reasons" includes working conditions, low pay, no opportunity for advancement, worried about job security, found a new job, moved, or left the job for other reasons. "For non-economic reasons" covers illness, personal and family responsibilities, and going to school.

†† "Other permanent" includes labour dispute, dismissal, job ended and retirement. "Other temporary" covers illness, accident, pregnancy, personal or family responsibilities, school and labour dispute.

the year. Even for full-time jobs the figure is close to 30%. These are jobs for which employers must incur hiring and training costs which, over the course of a year, can be considerable.

The labour market is therefore exceedingly active. But how much of this activity involves "regular" employment? While about half of the hirings are for permanent, full-time jobs (student employment accounted for only about 26% of hirings

in 1988), the number of paid jobs increased by only 360,000 during 1988. The reason for the relatively small gain is that the high rate of hiring was counterbalanced by an equally high rate of permanent separation, which in 1988 affected an average 3.4% of jobs each month (Chart A).

As noted earlier, separations occur for a variety of reasons. In 1988, there were about 2.9 million quits, affecting almost 19% of all person-jobs (Table 1). Firms permanently laid off approximately 1.2 million people for economic reasons. Temporary layoffs, in which workers return to their jobs within a year of being laid off, affected an additional 600,000 positions. Other permanent separations resulting from retirement, dismissals, labour disputes and end of short-term contracts accounted for another 555,000 people. The balance of separations (1.2 million) were temporary and attributable to illness, family responsibilities, accidents, labour disputes, and so on.

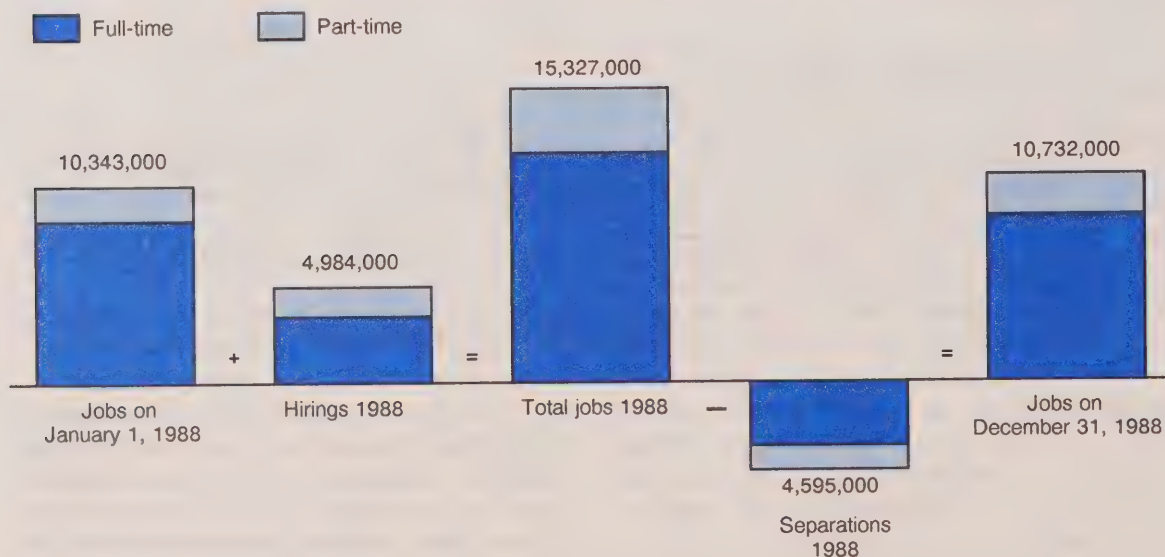
This profile of hirings and separations is an overview of the subject and is limited to a single year. It is intended to provide a general idea of the magnitude of labour turnover. Questions which immediately come to mind and which could be addressed using these data sources are: What kinds of jobs are involved? Who is affected? And, what role do quits play in reallocating labour among firms?

Seasonal movements

Canada's labour market is highly seasonal and this explains in part why turnover rates are high. Not all of the seasonality in employment is related to weather. Many students are hired full time for the summer and leave in the fall; many also work part time during the school year. In addition, some women work during the school year, leave their jobs to look after their children during the summer and return to work in the

Chart A

Net job gains in 1988 were small compared with the number of hirings.



Source: Labour Market Activity Survey

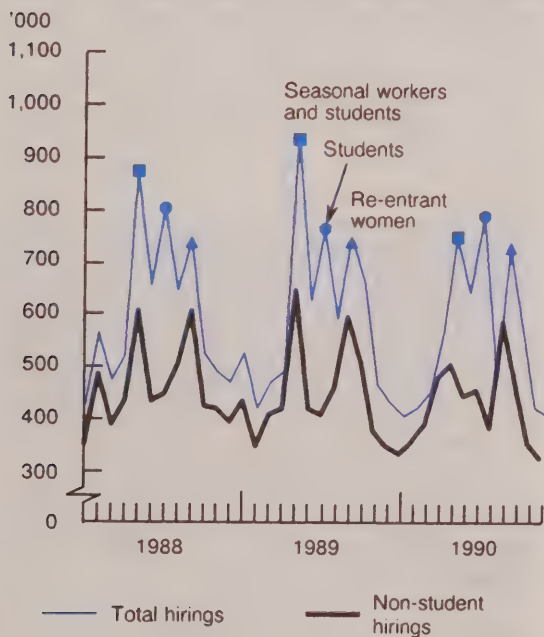
fall. All of these contribute to the high hiring and separation rates, although an important non-seasonal component remains.

The seasonality of hirings and separations is illustrated in Charts B and C. Non-student hirings peak in May (standard seasonal jobs), and again in September, when women re-enter the workforce. Total hirings show another peak in July when students are looking for work (Chart B).²

Seasonality in separations is dominated by student quitting in September. Non-student separations rise in September as a result of layoffs from vacation-related activities (recreation and tourism) and again in January as a result of post-Christmas layoffs (Chart C).

Chart B

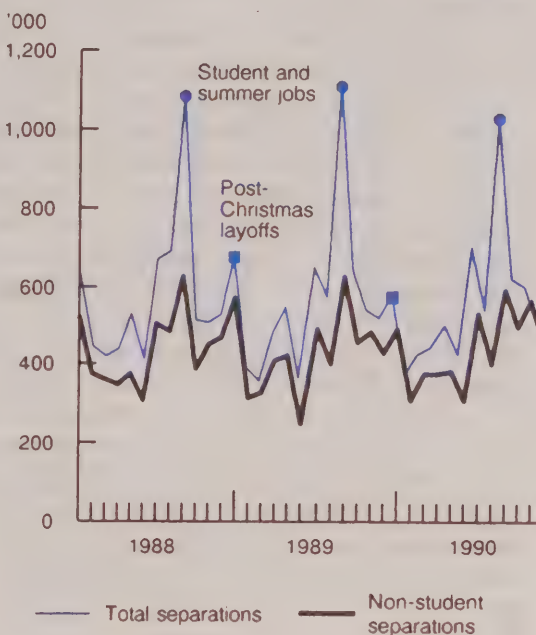
Seasonal workers, students and women re-entering the labour force account for the high monthly fluctuations in hiring.



Source: Labour Force Survey

Chart C

The number of separations is particularly high when students quit summer jobs.



Source: Labour Force Survey

Hirings and separations during downturns

The relative importance of hirings, quits and layoffs varies over the business cycle. Unemployment increased by about 400,000 in the 1982 recession, while employment dropped by about the same amount. One might be tempted to infer a correspondence between unemployed persons and lost jobs, and to conclude that the drop in employment resulted from permanent layoffs. A different scenario, however, could have yielded the same result. Employers could also have reduced hiring, while maintaining their experienced workforce during the downturn.

In this case, persons who lost their jobs, although no greater in number than before the recession, would have had greater difficulty finding new ones because of the reduction in hiring.

Under normal circumstances, jobs are continually vacated because of quits. Some firms reduce employment levels during downturns by not refilling these positions. However, in a severe economic downturn when employment opportunities are reduced (the 1982 recession), workers tend to hold onto their jobs. The decline in labour requirements, as a result of the reduced demand for goods and services, can lead firms to turn to layoffs, both temporary and permanent, in addition to cutbacks in hiring.

What actually occurred? The onset of the 1982 recession was characterized by a steep drop in hirings and a substantial increase in temporary layoffs (Chart D). Permanent layoffs increased as well, but this rise was more than offset by a reduction in quits. In fact, the proportion of persons leaving their firms permanently, whether because of quits or layoffs, actually fell slightly during the recession.

Thus the 1982 recession not only caused more workers to lose their jobs (temporarily or permanently), but it also delayed the normal process by which jobs and qualified workers are matched. New openings were reduced and overall mobility declined.

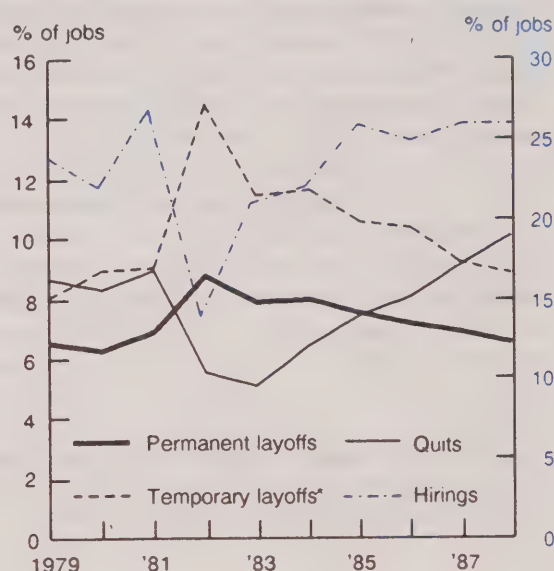
Turnover from an international perspective

Is the high rate of turnover in the Canadian labour market atypical? Is high mobility characteristic of labour markets in industrialized countries? Data from seven other countries shed some light on these questions (See *A note on international data*).

The larger hiring and separation rates observed in Canada also prevail in Australia and the United States, while rates in Japan

Chart D

During the 1982 recession, there was a drop in both quits and hirings, and an increase in temporary layoffs.



Source: Longitudinal Employment Analysis Program, Business and Labour Market Analysis Group

* See Appendix.

A note on international data

Comparable international data on specialized labour force topics are inordinately difficult to find. Table 2 was assembled from several OECD publications, and represents a compromise between obtaining data that measure exactly the same phenomenon and not presenting any data at all. The estimates of hirings, for example, are measures at a point in time of the number of persons with job tenure of one year or less. Therefore, jobs that started and ended during the reference year are not counted, although ongoing spells of employment that began during the year and that will be terminated in less than a year are included.

Likewise, the data on flows into unemployment are obtained by identifying all persons at a point in time who have been unemployed for less than one month. They therefore exclude persons who became unemployed but found a job soon thereafter, all within the reference month. On the other hand, spells in progress that will last for less than a month are included.

Table 2
Selected labour market indicators for several OECD countries, 1986 and 1988

	Average monthly hirings as a percentage of paid employment	Average monthly separations as a percentage of paid employment	Monthly unemployment flows as a percentage of source population		Unemployment rate	Unemployed more than six months (% of unemployed)
			Inflows	Outflows		
	1986	1986	1988	1988	1988	1988
			%			
Canada	2.3	2.0	1.9	31	7.7	21
United States	2.4	2.2	2.0	46	5.4	12
Japan	1.0	0.9	0.4	17	2.5	41
Australia	2.1	1.9	0.9	18	7.2	47
France	1.0	1.0	0.3	6	10.0	65
Germany	..	..	0.3	6	6.1	65
Sweden	..	..	0.4	30	1.6	21
United Kingdom	1.5	1.5	0.7	10	8.5	62

Source: Organisation for Economic Co-operation and Development

Notes: Turnover data for Australia and Japan are for 1987. Monthly hirings are estimated as one-twelfth of the proportion of employees with tenure of one year or less. Separations are obtained by subtracting hirings from employment change. Unemployment inflows are estimated as the proportion unemployed for less than one month. Outflows are estimated as the difference between the average monthly level of inflows (I) and the average monthly change in unemployment (U) over one year (t); that is, outflows = $[I(t) + I(t-1)]/2 - [U(t) - U(t-1)]/12$. The source population for unemployment inflows is the working-age population less the unemployed; for unemployment outflows, it is the total unemployed.

and France are relatively low (Table 2). The higher incidence of separations in Canada, Australia and the United States, however, does not necessarily result in greater unemployment. Indeed, France and the United Kingdom have relatively fewer separations per month, but relatively more persons unemployed. The reason is that in these two countries, periods of unemployment tend to last much longer. Fewer than 10% of the unemployed flow out of unemployment each month in France and the United Kingdom, whereas in the United States, Canada and Australia, it is 46%, 31% and 18% respectively. This translates into a much lower proportion of long-term unemployment in Canada and the United States (less so in Australia) than in these two European countries. It seems that in countries with more fluid labour markets, a larger proportion of the labour force is

exposed to unemployment, but reintegrating them into the ranks of the employed is relatively easier.

Why would labour markets differ so much in this way? What is the source of the additional separations observed in Canada and the other countries noted above? There are several possibilities. A certain proportion of separations can be attributed to seasonal and student employment, which tend to be far less common in France, Germany³ and Japan than in Australia and North America. In addition, temporary work contracts tend to be more strictly regulated in Europe, where employers are not entirely free to hire on a temporary basis. More critical perhaps is the extent to which employers are able to deal with short-term declines in activity by resorting to layoffs, which account for more than one-quarter of separations in Canada. Although there is no

statistical evidence, employment protection laws and administrative requirements regarding notification and consultation with unions in France, Germany and Sweden (but not the United Kingdom) may tend to make layoffs for economic reasons, whether temporary or permanent, more difficult (Brunhes, 1989). On the other hand, Sweden's active labour market policy, which emphasizes training rather than income support for unemployed persons, has apparently fostered a relatively more rapid reintegration of this group than would otherwise have been the case. In Japan, drops in demand are often dealt with (especially in large firms) by redeploying and retraining workers in other spheres of activity within the firm or the "enterprise group" that are less affected by the downturn (Dore et al., 1989).

One might also expect that employers who have less leeway in managing labour requirements than is the case in Canada and the United States might also be more cautious in hiring, because the effective cost of doing so would be greater. This may tend to reduce the number of workers willing to leave their jobs for potentially better ones. In a climate of limited and cautious hiring, workers may perceive their chances of finding better employment or of reintegrating into the ranks of the employed as low, even if considerably better than those of persons permanently laid off.

By international standards therefore, Canada's labour market is a very active one.

Separations are common, affecting a substantial portion of the labour force. However, periods of unemployment tend to be relatively short compared with other countries. Presumably, this encourages the efficient reallocation of labour among firms and the development of a flexible and adaptable workforce, but also perhaps one that includes large numbers of workers who do not develop any special skills. In countries where labour markets are much less active, workers tend to remain with employers longer and may well develop or acquire skills that enhance their value to the firm. In addition, with less hiring and fewer workers leaving firms for other jobs, the costs of hiring and training new employees are greatly reduced.

Conclusion

Until recently, data on the dynamics of the labour market in Canada were difficult to obtain. With the development of several new or previously untapped sources, a more complete picture is emerging about worker hiring and separation. From 1987 to 1988, the number of paid jobs increased by 360,000. Underlying this net change were 5.0 million hirings and 6.4 million separations, 1.8 million of which were temporary. The tremendous job and worker movement this represents is ongoing and is continuously adapting the structure of employment to changing economic conditions. □

Notes

¹ Some workers may be counted more than once if they left or were laid off from more than one job.

² The exact timing and size of the seasonal peaks may differ slightly from year to year because of the method of estimation. For this reason, they may not exactly

coincide with the peaks derived from other sources such as the Labour Market Activity Survey (see *Appendix*).

³ In this article, Germany refers to the former West Germany.

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Appendix

Data sources on hirings and separations

There are three data sources used in the articles dealing with turnover in this issue of *Perspectives*: the Labour Force Survey, the Labour Market Activity Survey and administrative Records of Employment.

The Labour Force Survey (LFS)

This is a monthly survey of about 62,000 households across Canada. It collects a wealth of information on the labour force characteristics of respondents for a typical week of the month (the reference week) and is the survey on which the official unemployment rate is based. Interviews are conducted during the "survey week," which is the week following the reference week. For more detailed information, refer to the monthly publication *The labour force* (Catalogue no. 71-001).

A method of estimating hirings and separations from this survey was developed over the last year and will be described in detail in an upcoming issue of *The labour force*. A brief description is given here.

For respondents who have worked within the last five years, the LFS collects the date (month and year) when they started working at the current or last job. With this information, one can estimate the number of persons who started a job before the survey week in the current month or at any time during the previous month. If one subtracts from this figure the estimated number of persons who started a job before the survey week the previous month (as estimated from the previous month's data), the result is an estimate of the number of hirings that have occurred in the interval between the survey reference weeks. The estimates are

therefore not on a calendar month basis. Also, for technical reasons, one cannot exclude from the hirings estimates persons who return to a former employer after a temporary (unpaid) absence.

Estimates of separations are obtained residually from the relation: employment change = hirings - separations.

This estimate of separations includes temporary as well as permanent separations. However, because separations are estimated residually, it is not possible to distinguish between quits and layoffs, nor is it possible to identify the labour force status (employed, unemployed, not in the labour force) of the respondent following the separation. However, changes are planned to the current survey questionnaire that will make this possible in the future.

The hirings and separations series from this source are available from 1976 on and can be tabulated by numerous characteristics, including age, sex, industry and occupation. Monthly estimates are available on request. (For special requests, contact Jean-Marc Lévesque at (613) 951-2301.)

The Labour Market Activity Survey (LMAS)

This is an annual longitudinal survey of 40,000 households which was conducted in two panels: the first, covering 1986 and 1987 and the second, 1988 to 1990. This survey collects information on all jobs held by respondents during the reference year, including information on start and end dates, industry, occupation, absences, promotions, job search, wages, and

Appendix – concluded

reasons for absences and job terminations. The survey was discontinued following the 1990 reference year and will be replaced for the 1993 reference year by the Survey of Labour and Income Dynamics (SLID), a continuing longitudinal survey with an observation period of six years (according to current plans). This survey will cover the content of the previous survey and include an income component and additional demographic information.

With the exception of the breakdown of jobs into permanent and temporary categories, which are derived from the 1986 survey, the estimates of hirings and separations for this article are from the 1988 survey. Currently, tabulations of hirings and separations are available only for the 1988 survey. Because of the complexities of the questionnaire and the data file, users attempting to reproduce the estimates appearing in the article from the public use microdata file may experience difficulty doing so. A Statistical Analysis System (SAS) algorithm which identifies hirings and separations and classifies the latter according to permanent/temporary and quits/layoffs/other is available on request.

This is undoubtedly the richest source of data on hirings and separations, because of the wealth of additional variables available. In addition to the data on wages mentioned above, it includes information on unionization, firm size, hours of work and Unemployment Insurance reciprocity.

A temporary separation (LMAS definition) is one in which the employee returns to the former employer within one year following the separation. Thus, a seasonal layoff which is followed by a return to a former employer after the end of the off-season is considered a temporary separation. To maintain conceptual consistency, such returns to former employers are not considered hirings. The assumption here is that a return to a former employer after a short absence (less than a year) implies a tie between the employee and the employer, although in practice there may not have been any guarantee of re-employment.

Because recurring employment with the same employer has been interpreted as reflecting a continuing job, a job is considered to be temporary (1986 LMAS) only if the job has been terminated, that is, the employee does not subsequently go back to it, or it is a student summer job, or a job identified by the respondent as seasonal or temporary upon termination and having lasted less than one year.

This means that a seasonal job is not considered a temporary job if the employee returns to it in the

following year. This is not entirely satisfying because one would normally consider seasonal jobs as "temporary," regardless of any return. However, the pattern of recurring employment with the same employer is apparently such a common one in Canada that it does not seem entirely appropriate to consider each seasonal return a new hiring. Subsequent analysis may need to examine the relationship between the length of the employment spell and the nature of the employer/employee link. (For special requests, contact Richard Veevers at (613) 951-4617.)

Record of Employment

By law, this form must be issued by an employer to every employee working in insurable employment who has an interruption in earnings. Generally, most people working under a contract of service – that is, in an employer-employee relationship – work in insurable employment. Excluded from insurable employment are employees who are aged 65 or over, those who are dependents or the spouse of the employer, those who earn less than the minimum weekly insurable earnings (\$113 in 1988) or who are employed less than 15 hours per week. The information on the Record of Employment form is used to decide if a person qualifies for Unemployment Insurance benefits, what the eligible rate should be and for how long the person may be eligible for benefits. The Record of Employment indicates, among other things, the first day of employment, the last day of employment, the reason for the interruption or separation and the insurable earnings.

The administrative file of Records of Employment can thus be used to generate counts of separations by reason. In addition, Revenue Canada files provide information on all jobs held during the year. From these and a longitudinal file on businesses, a longitudinal file for workers has been created that includes information on the number and type of separations in a year, annual income, personal characteristics such as age and sex, as well as certain characteristics of the firm in which the worker is employed, such as size and industry.

The temporary/permanent nature of a separation can be determined on this file by observing whether an employee returns to the same employer by the end of the year following the separation.

Note: The temporary layoff rate in Chart D is the number of persons with at least one temporary layoff divided by the number of persons employed at any time during the year.

Workers on the move: Hirings

Diane Galarneau

In 1988, the sixth year of the last period of expansion, employment grew at an annual rate of 3.2%. However, out of 12.2 million paid workers, about 3.8 million, or nearly a third, started a new job some time during the year. Moreover, 1988 was not an exceptional year: in 1986, for example, out of 11.5 million paid workers, just over 3.8 million were hired that year.

Hirings represent one aspect of the dynamics of the labour market, the other being quits and layoffs. They reflect certain types of workforce and business adjustments, as well as the cyclical and seasonal nature of the economy.

This paper examines general hiring trends. For example, are hirings more often full-time or part-time? Are there industry sectors where hirings are more or less frequent, and why is this so? Is it so every month of the year? What types of persons do employers turn to, to fill job vacancies?

Factors affecting hirings

Hirings¹ vary greatly from one month to the next; certain firms hire or rehire staff to adjust to product demand, because it is the beginning of the production season or because they are expanding.

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It is difficult to mention hirings without touching on the question of exits (quits and layoffs). In certain industry sectors, the hiring rates are distinctly higher than in others because the firms involved have laid off staff beforehand. In seasonal sectors (like agriculture, fishing, forestry, and tourism), high levels of hirings and layoffs are part of the normal production cycle, and it would be surprising to observe low workforce turnover. Other sectors have a relatively unskilled labour force and low training costs. It may therefore be less expensive for employers to lay people off in slack periods and rehire them when activity resumes, even at the risk of losing some of their workers.

Recent work (Baldwin and Gorecki, 1989) has shown that competition plays a major role in determining a firm's employment level and is responsible for a large amount of job creation and elimination. In a highly competitive industry we could therefore expect to find high hiring (and quit) rates attributable to the more competitive firms that were able to increase their market share and thus hire more workers. (High quit rates would be attributable to firms whose market share was decreasing because they were losing out to the competition.)

External factors, such as general economic conditions and the state of a particular sector (in expansion or decline) can also affect a firm's hiring level.

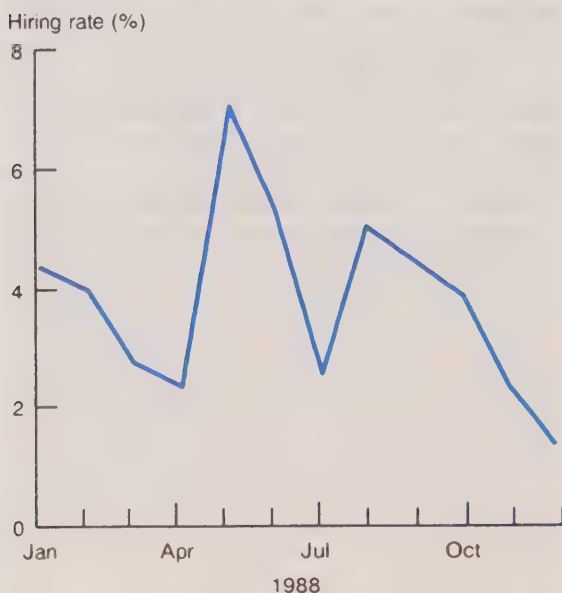
1988: a year of expansion

It is important to stress that the results are valid for the year studied – 1988 – which falls into a period of expansion, and that they could be different at another point in the economic cycle. Although it is difficult to know, from a single year of observation, to what extent hiring is affected by economic conditions, it is worth recalling the events that marked 1988.

It was the sixth year in the cycle of economic growth that began in 1983. Although many analysts forecasted a slowdown of economic growth following the stock market crash of October 1987, the expansion kept up its momentum. The production of goods and services continued to grow, led by the mining, construction, wholesale trade and transportation sectors. The year 1988 was also marked by a drought that greatly affected agricultural production as well as several related sectors.

Chart A

The hiring rate peaks in late spring and in the summer.



Source: Labour Market Activity Survey

According to the Labour Force Survey, employment in 1988 rose 3.2% in comparison with 1987, registering the highest annual growth since 1980. The number of unemployed dropped by 119,000, and the average annual unemployment rate even fell below the 8% mark, reaching the lowest level since 1981.

Monthly distribution of hirings

In 1988, there were 5 million hirings, representing a rate of 32%.² This means that in 1988 about one paid job in three was either held by a new person or was a newly created job. On a monthly basis,³ the number of hirings varied between 140,000 and 800,000, while the rate rose from about 1% to 3% during the slack months, to reach 5% to 7% during the more active months.

The data

This paper is based on the results of the Labour Market Activity Survey (LMAS) of 1988. The LMAS is a supplement to the Labour Force Survey (LFS) and provides data on the labour market activity of Canadians and the characteristics of the jobs they hold, up to five a year, during one calendar year.

As the LMAS encompasses all of the labour market activities Canadians engaged in at some time during the year, its annual employment estimates are higher than those of the LFS, which provides annual averages based on monthly estimates of employed persons.

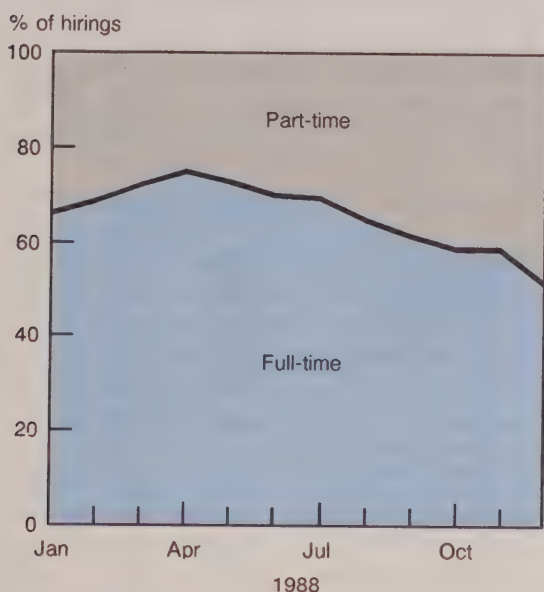
The LMAS results enable us to examine the labour market from two angles, that of persons and that of jobs. The data are thus available in two distinct files. The first file, on persons, reveals that 12.2 million persons held paid jobs in 1988. The job file, on the other hand, reveals that these persons held 15.7 million paid jobs during the year. This means that in 1988 certain workers held several jobs.

To show the difference between a job in the ordinary sense and a job in the context of the LMAS, consider the example of an employer who has a position to fill for 12 months. During the year, three persons hold this position for 4 months each. For the purposes of the LMAS, this position corresponds to three jobs.

This paper is based mainly on the job file. An information booklet on the Labour Market Activity Survey is available and can be obtained from Richard Veevers at (613) 951-4617.

Chart B

A greater proportion of hirings are for full-time jobs.



Source: Labour Market Activity Survey

Several factors account for the monthly fluctuations in the hiring rate. For example, because of the entry of students into the labour market and the beginning of the production season in certain seasonal industries (such as agriculture, fishing, forestry, construction and tourism), the highest hiring rates and the largest number of hirings were recorded in the spring and summer (40% of hirings took place in May, June and August 1988). At the other extreme, the beginning and end of winter were slack periods.

Full-time and part-time hirings

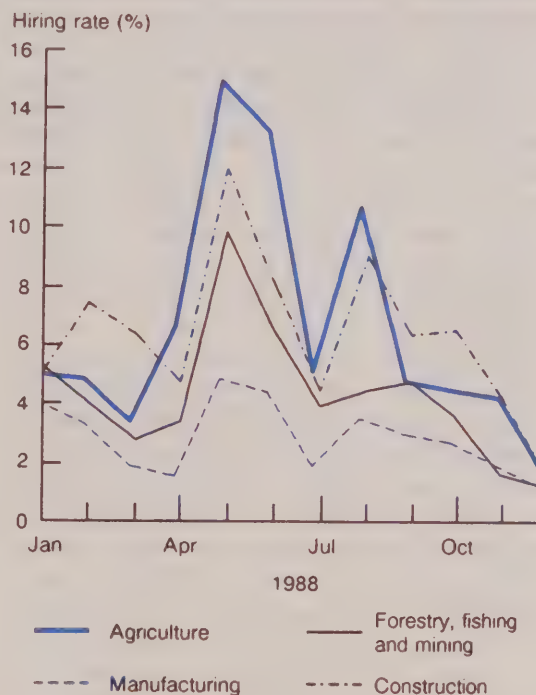
In 1988, most hirings (over two-thirds) were for full-time jobs.⁴ From January to April, the proportion of full-time hirings rose from

66% to 75% of the total, and subsequently fell at an almost constant rate until December, when it was no more than 51%. Once again, this may be attributable to the entry of students into the labour market and to the more seasonal nature of certain industries.

The relative importance of part-time hirings increased in the fourth quarter mainly because of a decrease in the number of full-time hirings. In fact, all hirings dropped towards the end of the year, but those giving rise to full-time jobs decreased more, relatively.

Chart C

Highly seasonal industries in the goods-producing sector fluctuate the most.



Source: Labour Market Activity Survey

Distribution across industrial sectors

Goods-producing sector

The hiring rate for the goods-producing sector, at 32%, is the same as that for the service sector (Table 1). However, if the manufacturing industry is excluded, the hiring rate of the goods sector is distinctly higher, rising to 42%.

This phenomenon is attributable to the seasonal industries of agriculture, fishing, forestry and construction. Not surprisingly, the four most seasonal industries show wide fluctuations in the hiring rate (Chart C). Despite this, they represent only a relatively small part of the total number of hirings during the year (14%). This probably reflects the relatively small size of these industries in the Canadian labour market.

The manufacturing industry differs from the rest of the goods sector because it is less seasonal in nature. At 25%, its hiring rate is distinctly lower than that of the other industries in this sector, but remains relatively close to the all-industry average (32%). Monthly fluctuations are relatively weak. However, in May the hiring rate reaches a peak, which is attributable in part to the hiring of students, probably to replace regular employees on vacation. Although there is little seasonal variation in this industry, the low monthly hiring rate may also be attributable to certain important components of this industry (such as motor vehicles, pulp and paper, or publishing and printing) that require a relatively skilled workforce. Employees are therefore more difficult to replace and often strongly unionized, which tends to restrict entries and exits. Even though the manufacturing industry is in decline, it is difficult to attribute its relatively low hiring rate to this factor, especially in 1988. (According to the LFS, net employment in manufacturing

grew by more than 4% between 1987 and 1988, compared with 3.2% for all industries.)

Table 1
Hirings rates by industry, 1988

	Hirings	Paid jobs	Hiring rate
	'000		%
All industries	4,984	15,731	32
Goods sector	1,378	4,371	32
Agriculture	130	288	45
Other primary industries*	140	419	33
Manufacturing	690	2,739	25
Construction	418	924	45
Service sector	3,606	11,361	32
Transportation, communication and other utilities	244	1,087	22
Trade	1,044	2,823	37
Finance, insurance and real estate	194	830	23
Community services**	546	2,524	22
Business services	301	777	39
Personal services†	1,009	2,145	47
Public administration	268	1,175	23

Source: Labour Market Activity Survey

* Includes forestry, fishing and mining.

** Includes health and welfare services, education and religious organizations.

† Includes personal services, accommodation and food services, amusement and recreation services, and miscellaneous services.

Service sector

In the service sector, personal services,⁵ business services and trade had the highest hiring rates and the widest monthly fluctuations (Chart D). Jobs in personal services and trade often require little training, and it is less expensive for employers to lay people off in slack periods and to hire them in more favourable periods. On the employees' side, the fact that the working conditions in these industries are

often less advantageous (lack of job security, low wages and few welfare benefits), makes it less expensive to change employers. As well, many of these jobs are held by students. All these factors, combined with the fact that these industries are more sensitive to changes in economic conditions, may produce relatively higher staff turnover and hence high hiring rates.

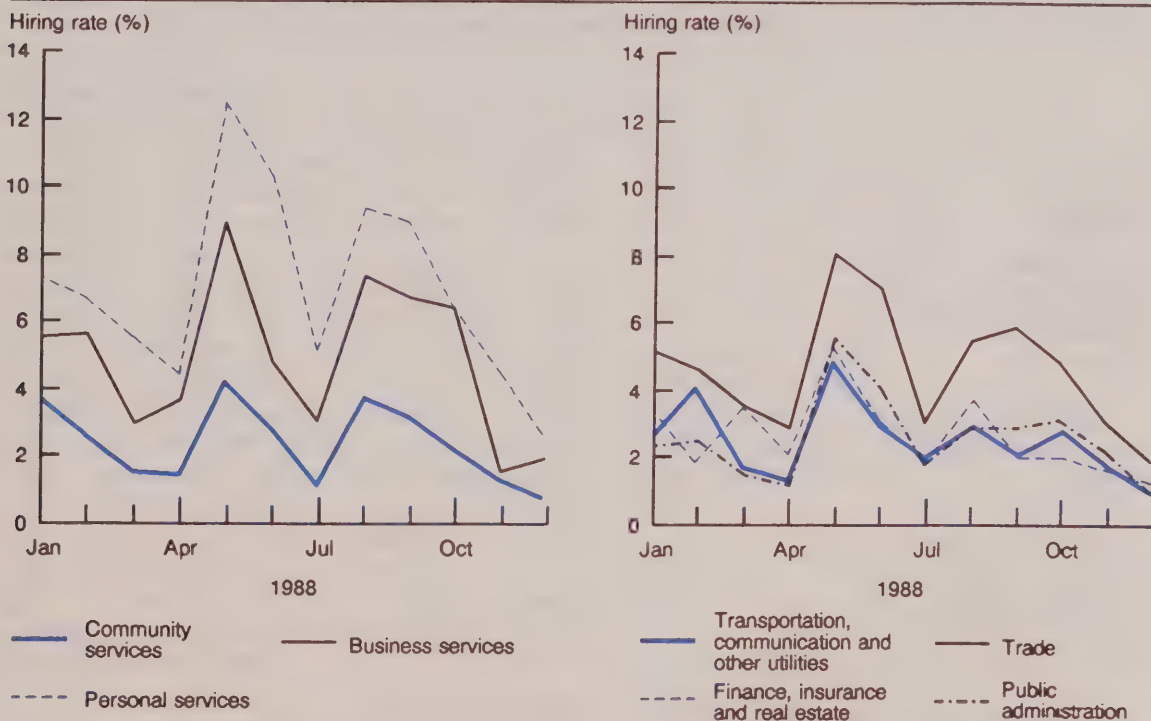
The business services industry has experienced considerable growth with the development of new technologies; also, many firms tend to contract out certain services they used to provide themselves. According to LFS data, from 1984 to 1988 employment in business services increased by 36%, compared with 12% for all industries taken together.

The relatively low hiring rate and narrow monthly fluctuations found in public administration reflect both the low workforce turnover in this sector and the trend towards limiting growth in the public sector. In addition, the high rate of unionization and relatively attractive working conditions provide little incentive for workers to move.

The other industries, namely community services,⁶ finance, insurance and real estate, and transportation, communication and other utilities, are not seasonal industries. They therefore show relatively low hiring rates and much less monthly fluctuation. Moreover, many jobs in these industries require specialized training. It also often happens that experience is an asset to both employees and employers. In

Chart D

The highest rates in the service industries are found in personal services, business services and trade.



Source: Labour Market Activity Survey

community services and transportation, communication and other utilities, there is a high rate of unionization and a relatively stable demand for services. All these factors introduce a certain rigidity into these industries, which makes entries and exits more expensive for both employees and employers.

In 1988, the service sector as a whole accounted for 72% of all hirings. More specifically, the industries with the most hirings were retail trade (17%), accommodation and food services (12%), health (6%), business services (6%) and education (5%).

Full-time and part-time hirings by industry

On the whole, hirings in the goods sector were more likely to be full-time than those in the service sector (84% and 60% respec-

tively). Agriculture differed from the rest, however, with only 64% of hirings being full-time.

Personal services, community services and trade showed the highest proportions of part-time hirings. This is probably related to the fact that the workforce in these industries is made up in large part of women and students, who are usually more willing to work part-time.

Hirings and paid jobs

In all sectors, 34% of hirings were part-time, compared with 23% of paid jobs (Table 2). This higher proportion of part-time hirings than part-time jobs seems more strongly associated with the service sector, since the hirings in that sector are more often part time.

Table 2
Distribution of full-time and part-time hirings and paid jobs by industry, 1988

	Hirings		Paid jobs	
	Full-time	Part-time	Full-time	Part-time
	%			
All industries	66	34	77	23
Goods sector	84	16	90	10
Agriculture	64	36	66	34
Other primary industries*	90	10	93	7
Manufacturing	86	14	93	7
Construction	84	16	87	13
Service sector	60	40	73	27
Transportation, communication and other utilities	73	27	87	13
Trade	58	42	67	33
Finance, insurance and real estate	78	22	86	14
Community services**	50	50	67	33
Business services	77	23	81	19
Personal services†	52	48	58	42
Public administration	73	27	85	15

Source: Labour Market Activity Survey

* Includes forestry, fishing and mining.

** Includes health and welfare services, education, and religious organizations.

† Includes personal services, accommodation and food services, amusement and recreation services, and miscellaneous services.

Does this reflect high job turnover, or the growing importance of the service sector and the rising proportion of part-time jobs in this sector? Or is it simply because part-time jobs are temporary and disappear after a few months?

It is difficult to give a definite answer to this question without having more years of observations to go by. However, using 1986 data, the proportion of part-time hirings in the service sector for permanent jobs was calculated.⁷ According to these results, 80% of part-time hirings in this sector were permanent. Thus part-time jobs do not seem precarious, at least not in 1986.

The persons hired

What kind of workers did employers turn to, to fill vacancies? The 5 million hirings in 1988 involved 3.8 million persons, who were almost evenly divided between men and women. In general, those hired were relatively young: 46% were under 25, and 29% were aged 25 to 34. This may be because a fair number of hirings involved students; in fact, a high proportion of those hired (36%) still lived with their parents. As well, job security usually increases with age, and it is reasonable to expect more hirings among younger people.

The average hourly wage rate of hirees was lower than that of all paid jobs (\$8.95 compared with \$11.55). This difference may be attributable to several factors, almost certainly including the younger age of those hired, the high proportion of part-time jobs among hirees and the fact that many hirings took place in the retail trade and personal services industries,⁸ which usually offer relatively low pay.

About 44% (1.7 million) of the persons hired had a job just before starting a new job. The remaining 56% may have been unem-

ployed, discouraged workers, people entering the labour market for the first time, returnees from some kind of leave, or people who were offered work without having looked for it.

About half of those persons who had a job before starting a new job were working in a related occupation. Their average hourly wage rate increased by 13%, rising from \$8.71 to \$9.84.

Conclusion

In 1988, there were 5 million hirings, which accounted for 32% of all paid jobs during the year. On a monthly basis, the hiring rate reached peaks in late spring and during the summer. Over two-thirds of hirings gave rise to full-time jobs.

Agriculture, fishing, forestry and construction showed relatively high rates of hiring as well as wide monthly fluctuations. This was no doubt attributable to their more seasonal nature. Despite high hiring rates, these industries represented only 14% of the total number of hirings during the year.

Certain service industries also showed high hiring rates and wide monthly fluctuations. This was the case for trade (especially retail trade) and personal services (particularly those related to tourism, such as accommodation and food services). The high hiring rates in these industries may reflect seasonal fluctuations, less than advantageous working conditions and the little training required for these positions. These industries accounted for the highest proportion of hirings during the year (about 40%).

The 5 million hirings involved 3.8 million persons. About 44% of them already had jobs before being hired and they increased their wage rate by about 13%, on average. □

Notes

¹ For a definition of hirings, see the article "Workers on the move: An overview of labour turnover," in this issue. It discusses entries into and exits from the labour market and contains definitions of the terms used in this paper.

² The hiring rate is the ratio of the total number of hirings in 1988 to the total number of paid jobs existing for at least one week during the year. This rate can also be calculated on a monthly basis.

³ There is a difference between the number of hirings taken from the Labour Market Activity Survey (LMAS), the data source for this study, and that of the Labour Force Survey (LFS), used by G. Lemaitre in his article, "Workers on the move: An overview of labour turnover." For more details, see *The data*.

⁴ Throughout this article, a full-time job is defined as 30 hours or more per week.

⁵ This industry comprises personal services, accommodation and food services, amusement and recreation services, and miscellaneous services.

⁶ This industry includes education, health and social services and religious organizations.

⁷ Only the LMAS questionnaire of 1986 makes it possible to distribute hirings according to whether they were for temporary or permanent jobs. For further details on this distribution and the definitions of permanent and temporary jobs, see the article "Workers on the move: An overview of labour turnover" in this issue.

⁸ The personal services industries also include accommodation and food services, amusement and recreation services, and miscellaneous services.

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What's new?

Just released

Results of Survey of School Leavers confirm drop-out rates are high

In support of the federal government's Stay-in-School Initiative, Statistics Canada conducted the first national Survey of School Leavers in 1991. Between April and June, the Agency interviewed almost 9,500 young people aged 18 to 20. Respondents were classified into three groups: non-completers (those who left high school without a diploma or certificate), graduates, and continuers (those who were still in school).

All respondents were asked about their high school experiences, and questions covered such issues as academic ability, drug use, attitudes regarding school and support received from teachers and parents. Non-completers were asked about their situation when they left school, for example, if problems at home or school prompted their action, and if they had dropped out more than once. Graduates and continuers were asked if they had ever considered quitting and why they did not do so.

Data on labour force activity were collected from non-completers and graduates. In addition, information was collected on employment-related topics such as literacy, training or education taken after high school, and sources of income.

Results of the survey show that:

- Almost 24% of young people aged 20 have dropped out of school at some point; the rate for men (28%) was much higher than that for women (19%).
- 47% of the young people who had left school at one point did, in fact, return; there was no significant difference in return rates for men and women.
- Non-completers said that the most important reasons for leaving school were that they preferred work to school (22%), or they were bored (20%). Only 8% cited problems with school work and 6% problems with teachers. Interestingly, women were much more likely to report having problems with school work and men to having trouble with teachers.
- Half the young people who left school were not happy that they had done so, with women (56%) more likely than men (45%) to regret their decision.
- Non-completers were somewhat less likely than graduates to be employed (57% versus 60%); twice as many non-completers as graduates (39% versus 18%) were without work – they were either unemployed or not in the labour force. Female non-completers were considerably worse off in the job market, with fewer than half of them working, compared with almost two-thirds of male non-completers.

A nine-page information package with preliminary results of the 1991 School Leavers Survey is available. A compendium of results and a series of analytical articles are scheduled for publication at a later date. For information, call Doug Higgins at (613) 951-5870. □

A look back at 1991

The past year has often been described in the media as the worst for the Canadian economy since the early 1980s. The year-end compilation of labour market data, *Labour Force Annual Averages, 1991* (Catalogue no. 71-220), can help users assess the strengths and weaknesses of that popular perception.

This annual report is designed for analysts who prefer yearly averages to the monthly figures published in *The Labour Force* (Catalogue no. 71-001) and for users who want detailed information not found in the monthly publication. Data tables cover employment, unemployment, participation rates and persons not in the labour force by variables such as level of education, family structure, industry, occupation, multiple jobholding, and job search methods. The report also contains statistics subject to high sampling variability, which are more appropriately expressed on an annual rather than monthly basis, for instance, worker absences by industry, occupation and province.

The 1991 edition also publishes a feature article that examines the service sector from 1976 to 1991. During this period, the number of people working in the service sector increased 46%, while employment in goods-producing industries remained static. Consequently, by 1991, nearly three-quarters of all Canadian workers were employed in the service sector, compared with fewer than two-thirds in 1976. Moreover, employment rose in each of the 13 industry groups comprising the service sector.

- Growth was greatest in services to business management, where employment rose 140%. This industry also had the highest rate of self-employment, at 27%, in 1991.
- Growth was also strong in food and accommodation services, at 87%; these industries have the highest proportion of workers aged 15 to 24 (43%), perhaps explaining the large share of the workforce that is employed part time.
- Employment growth in health and social services amounted to 74%, while the increase in employment in retail trade was just above average, at 34%.

In addition to explanatory text and charts, the article contains tables presenting national and provincial distributions of service sector employment by age, sex, type of employment and category of worker.

Labour Force Annual Averages, 1991 (Catalogue no. 71-220) is available for \$39 from Publications Sales and Service, Statistics Canada, Ottawa, K1A 0T6; or fax orders to (613) 951-1584. □

General Social Survey takes pulse of Canadians

Results of Cycle 6 of the General Social Survey (GSS), conducted in 1991, are now available. Almost 12,000 people were interviewed about the state of their general health, and the impact of work on their physical and mental well-being. Particular emphasis was placed on work injuries or illnesses, work days lost to injury or illness, work stress and measures taken to reduce it, and exposure to environmental hazards in the workplace (including noise and computer screens).

Preliminary results of the survey show that:

- Fully 58% of Canadians rated their overall health as very good or excellent; people aged 25 to 34 were most satisfied with the state of their health.
- In the previous 12 months, 6% of Canadians aged 15 and over suffered a workplace injury or illness. As a result of such mishaps, these people missed an average of 23 days of work.
- The leading cause of stress in the work environment was too many demands or too many hours of work, followed by poor interpersonal relations. However, just 39% of workers tried to improve such situations.
- As might be expected, workplace hazards vary in different occupations. Fully 61% of people in clerical positions were exposed to computer screens or display terminals; loud noises were most common for workers in processing, machining or fabricating occupations, while dust or fibres in the air most frequently affected those in construction.

Respondents were also asked about their work history and current employment status, in order to relate labour force activity to general health and use of health services. Lifestyle habits such as the use of alcohol and tobacco, sleep patterns, and level of physical activity, were also probed.

The GSS has been conducted annually since 1985 to provide policy makers and analysts with national statistics on the living conditions and well-being of Canadians. The GSS operates on a five-year repeating cycle, each year collecting data on one of five topics, which form the core content of the survey: health, time use,

personal risk, education and work, and the family. Cycle 6 was the first survey to repeat a core topic, in this case, health.

The GSS Cycle 6 content was designed to be comparable, where possible, with the GSS Cycle 1 on health. To a lesser extent, Cycle 6 data is also comparable with other GSS cycles, the 1990 Health Promotion Survey, and the 1978-79 Canada Health Survey. For further information about GSS Cycle 6, contact Ed Praught at (613) 951-9180; for information about the GSS program, call Doug Norris at (613) 951-2572. □

Follow the planning of a major new longitudinal survey

In 1994, Statistics Canada will launch a major longitudinal survey of households. The Survey of Labour and Income Dynamics (SLID) will follow individuals and families for five or six years, collecting information about their labour market experiences, income and family circumstances.

As a longitudinal survey, SLID will record important events in a person's life, such as family formation and dissolution, migration, and job loss; the resulting data will improve our understanding of the links between demographic events, labour market events and changes in income. SLID will support research aimed at advancing our understanding of labour market behaviour and economic well-being, and will ultimately support policy development.

The analytical power of longitudinal data is widely recognized and many countries have established panel surveys similar to SLID. However, the survey will also generate annual cross-sectional data, including annual wage distributions and estimates of the number of people employed or unemployed at some time during the year.

A report entitled *Content of the Survey of Labour and Income Dynamics* is available to interested readers. This paper is part of the SLID Research Paper Series, which will document developmental work for the survey, and later serve as a dissemination vehicle for exploratory research and data quality studies.

For readers wanting more regular news about the SLID project, *Dynamics*, a newsletter, reports on SLID plans and progress, products and services, and research activities.

For further information about the Research Paper Series, or to receive *Dynamics*, contact David Courtney at (613) 951-2891. □

Getting the most out of the Labour Force Survey

The Labour Force Survey (LFS) is best-known for estimating levels of employment and rates of unemployment, but it can tell users a great deal more than simply who is working and who is not. The *Guide to Labour Force Survey Data* (Catalogue no. 71-528) is designed to help users unlock the potential of this monthly survey.

The guide is divided into three sections. Part A provides a general survey overview, and discusses such basics as sample size and selection, reference period, collection procedures and standard concepts and definitions (for example, the difference between being unemployed and not in the labour force). Part B provides a dictionary of terms used by the LFS, as well as information about the formats in which the data are available.

Part C of the *Guide to Labour Force Survey Data* reprints the survey question-

naires, and explains how each question is used to build a comprehensive socio-economic profile not only of Canada's labour force, but of its entire adult population. Many of these question-by-question explanations provide examples showing how an actual or problematic answer is placed in a certain category and why. For example, people who are not working during the reference week, but who will be starting a job in less than four weeks, are considered unemployed if they are available for work that week.

The most frequent requests for LFS data concern employment and unemployment by age, sex, occupation and industry. But the LFS can also provide information about the number of years of service with the same employer, multiple jobholding, school attendance, absence from work, reason for leaving a job, job search methods, the type of work the unemployed want, reasons for not being in the labour force, and much more. All of these characteristics can be disaggregated by a number of demographic and socio-economic variables.

In addition to collecting labour force data each month, the LFS frequently carries supplementary surveys; the guide provides brief descriptions of some of the more important ones. Some of the supplements are conducted annually, such as the Survey of Consumer Finances and the Survey of Job Opportunities, while others are done by special request on a cost-recovery basis – the Adult Education and Training Survey, for example. The data from these topic-specific surveys are considerably enriched by the addition of LFS labour market information.

Guide to Labour Force Survey Data (Catalogue no. 71-528) can be ordered for \$45 from Publications Sales, Statistics Canada, Ottawa, K1S 0T6; or fax orders to (613) 951-1584. □

Queen's University offers subscription to industrial relations publications package

The Industrial Relations Centre of Queen's University runs a research program designed to meet the needs of industrial relations (IR) and human resources (HR) professionals working in business, labour and government. To help practitioners keep up to date with developments in IR/HR practice and theory, the Centre is offering an annual subscription to a comprehensive package of its products and services.

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events pertinent to labour relations issues; an annual bibliography of grievance arbitrations; and relevant bibliographies compiled by the Ontario Ministry of Labour.

A fifth component of the IR/HR Publications Program allows subscribers to order additional copies of the subscription material, as well as titles from the IRC Press catalogue, at half price. Some recent titles from the IRC catalogue include: "Industrial restructuring and industrial relations in Canada and the United States"; "Industrial relations in 1991: trends and emerging issues"; "An evaluation of employee involvement initiatives in Canada" and "Pay equity legislation: linking economic issues and policy concerns."

For information about the IR/HR Publications Program, call Carol Williams, School of Industrial Relations, Industrial Relations Centre, at (613) 545-6623; fax (613) 545-2560. □

Symposium on jobs and the environment

Report by Doreen Duchesne
Labour and Household Surveys
Analysis Division

The Canada Employment and Immigration Advisory Council recently held a three-day conference in Ottawa on the topic of environment and employment. The event attracted 115 participants from labour, government, environmental groups and business.

The symposium's opening plenary session featured three guest speakers, representing business, labour and environmentalists, who presented their views regarding the effects of environmental degradation and preservation on jobs. The remainder of the symposium centred around five workshops in which participants discussed the impact of environmental

degradation and protection on the workplace, workers, employers, public decision-making and competitiveness. Some of the issues examined were: workers having to choose between their health and their jobs, or pollution and their jobs; workers losing their jobs or needing to learn new skills as a result of environmental degradation or protection; the problems and costs associated with the adaptation of environmental protection standards; the effective integration of environmental preservation and economic development; and the positive and negative impact of pollution control measures on employment and productivity.

A recurring theme throughout was the lack of information needed to make responsible decisions that protect both jobs and the environment. Many participants complained that not enough research and development is being done (on environmental technologies, the interaction between environmental controls and job creation or job loss, and so on).

A number of attendees felt that although some jobs would be lost as a result of environmental controls, numerous other jobs would be created, many of them skilled. In fact, it was pointed out that environmental controls are rarely the main cause of employment loss; they are usually only one of many factors.

Regarding the economic impact of environmental controls, one guest speaker, Roger Bezdek of Management Information Services, Washington, D.C., said that U.S. spending on environmental clean-ups was growing three times faster than gross national product. He also predicted that U.S. expenditures on pollution abatement and control would exceed defence spending by the turn of the century. To counter fears that pollution-reduction measures would inhibit competitiveness, environmentalists pointed out that high standards sometimes lead to increased efficiency and productivity. It was also suggested that international

harmonization of environmental, health and safety standards would enhance competitiveness.

The general conclusion at the closing plenary was that good environmental practice means healthy economic development. Most participants thought that standards and regulations at various levels of government are necessary. They also agreed that environmental issues must transcend other agendas so that decisions will reflect strategic long-term solutions, rather than short-term crisis management. These solutions must adopt an "ecosystem" approach, and be developed and implemented in consultation with all stakeholders.

For information on the Symposium proceedings, contact Doreen Duchesne at (613) 951-6893. □

New surveys

June 1992: Survey of 1990 Graduates

On behalf of Employment and Immigration Canada, Statistics Canada is surveying 1990 graduates of university, community college and trade/vocational programs. The main objective is to examine the labour market experiences of these graduates in the two years since they obtained their qualifications.

About 50,000 graduates will be interviewed by telephone about topics such as work experience before graduation; field of study; labour force status in January and October 1991; months out of the labour force and months unemployed since graduation; satisfaction with field of study, institution and level of qualification; relationship between job and program of study; borrowing funds to pay for studies; and formal education undertaken since graduation.

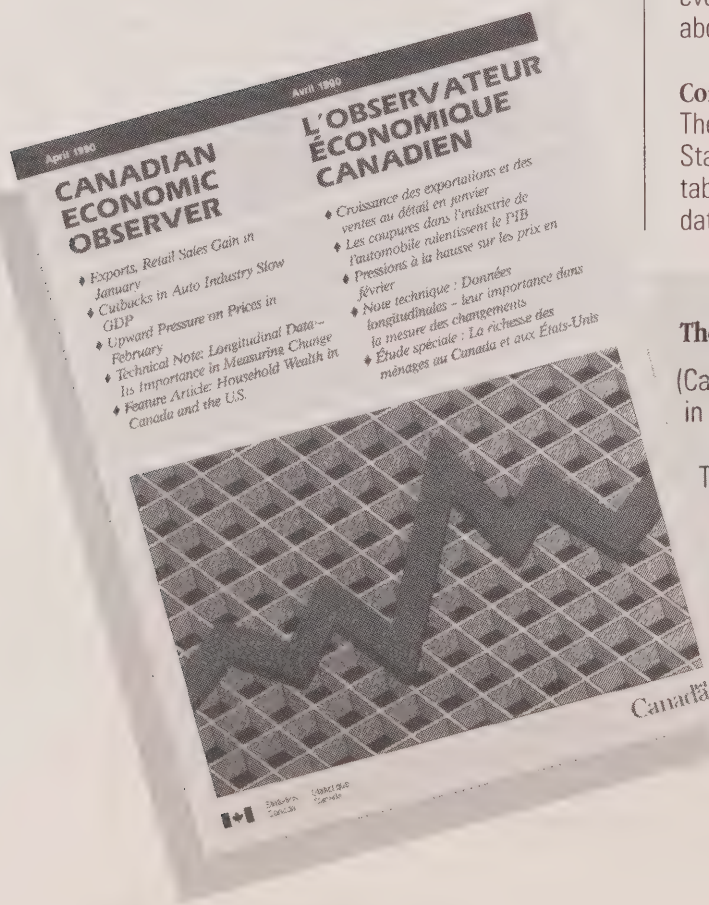
Questions that allow the identification of visible minorities and disabled persons are also included to permit employment equity analyses.

The 1992 survey joins a semi-regular series of graduate surveys, the first of which was conducted in 1978 to track the labour market experiences of 1976 graduates.

Similar surveys of 1982 and 1986 graduates were carried out in 1984 and 1988 respectively. The 1992 survey will extend the existing base of information.

Preliminary results from the Survey of 1990 Graduates are expected in the late fall of 1992. For further information, contact Philip Stevens at (613) 951-9481. □

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Key labour and income facts

The following selection of labour and income indicators is drawn from 12 sources and includes published and unpublished annual data. These indicators appear in every issue.

The latest annual figures are always shown; as results become available, the indicators are updated so that every issue contains new data. An indicator updated since the last issue is "flagged" with an asterisk.

Data sources

The indicators are derived from the following sources:

1-11 & 15	Labour Force Survey Frequency: Monthly Contact: Doug Drew (613) 951-4720	30-32	Labour Canada, major wage settlements Frequency: Quarterly Contact: Information (819) 997-3117
12-14	Labour Market Activity Survey Frequency: Annual Contact: Richard Veevers (613) 951-4617	33-35	Labour income (Revenue Canada – Taxation-based statistics, Survey of Employment, Payrolls and Hours and other surveys) Frequency: Quarterly Contact: Ed Bunko (613) 951-4048
16	Absence from Work Survey Frequency: Annual Contact: Denis Lefebvre (613) 951-4600	36-46	Survey of Consumer Finances Frequency: Annual Contact: Kevin Bishop (613) 951-2211
17	Workers' Compensation statistics Frequency: Annual Contact: Joanne Proulx (613) 951-4040	47-53	Household Facilities and Equipment Survey Frequency: Annual Contact: Penny Barclay (613) 951-4634
18	Help-wanted Index Frequency: Monthly Contact: André Picard (613) 951-4045	54-55	Administrative data Frequency: Annual Contact: Customer Services (613) 951-9720
19-21	Unemployment Insurance statistics Frequency: Monthly Contact: André Picard (613) 951-4045	<p>Notes on the method of deriving certain indicators are given at the end of the table.</p> <h3>Additional data</h3> <p>The table provides at the most two years of data for each indicator. A longer time series (generally ten years) for this set of indicators, on paper or diskette, can be obtained on request, at a cost of \$50. (A more extensive explanation of the indicators is also available.) This ten-year data set is updated annually in April. For information, contact Jamie Darch at (613) 951-0177.</p>	
22-29	Survey of Employment, Payrolls and Hours Frequency: Monthly Contact: Howard Krebs (613) 951-4063		

Key labour and income facts

No.	Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
Labour market							
1 Labour force	'000	1990	13,681	242	65	424	331
		1991	13,757	241	64	422	327
Change	%		0.6	-0.4	-1.7	-0.4	-1.0
2 Participation rate	%	1990	67.0	56.0	66.0	62.1	59.8
		1991	66.3	55.3	65.1	61.3	58.6
3 Employed	'000	1990	12,572	201	55	379	291
		1991	12,340	197	53	371	286
Change	%		-1.8	-2.0	-3.9	-2.1	-1.7
4 Proportion of employed working part time	%	1990	15.4	11.3	15.5	15.8	14.6
		1991	16.4	12.3	16.2	17.0	15.3
5 Proportion of part-timers wanting full-time work	%	1990	22.4	52.3	35.5	33.1	37.9
		1991	27.7	59.1	39.3	38.6	39.8
6 Unemployed	'000	1990	1,109	41	10	45	40
		1991	1,417	44	11	51	42
Change	%		27.7	7.4	11.2	13.9	4.0
7 Official unemployment rate	%	1990	8.1	17.1	14.9	10.5	12.1
		1991	10.3	18.4	16.8	12.0	12.7
Alternative measures of unemployment							
* 8 Unemployed 14 or more weeks as a proportion of the labour force	%	1990	3.1	8.3	5.6	4.2	4.6
		1991	4.6	9.3	6.3	5.2	5.2
* 9 Unemployment rate:							
– of persons heading families with children under age 16	%	1990	7.3	16.5	15.3	9.3	11.2
		1991	9.1	17.0	16.9	10.5	11.8
– excluding full-time students	%	1990	8.0	17.2	15.4	10.5	12.0
		1991	10.1	18.4	17.3	11.9	12.6
– including full-time members of the Canadian Armed Forces	%	1990	8.1	17.0	14.7	10.2	11.9
		1991	10.2	18.3	16.7	11.7	12.5
– of the full-time labour force	%	1990	9.6	19.7	18.2	12.8	14.6
		1991	12.4	21.6	20.4	15.0	15.5
– of the part-time labour force	%	1990	10.1	15.6	7.6	12.9	13.5
		1991	11.8	16.2	10.2	13.9	13.6
– including persons on the margins of the labour force	%	1990	8.7	20.3	16.4	11.3	14.0
		1991	11.0	22.2	18.4	13.0	14.8
*10 Underutilization rate based on hours lost through unemployment and underemployment	%	1990	10.2	20.3	18.5	13.5	15.4
		1991	13.0	22.3	20.9	15.7	16.4
*11 Proportion unemployed 6 months or longer	%	1990	18.4	26.8	--	18.5	17.6
		1991	23.3	28.2	--	21.1	21.4

See Notes and definitions at end of table.

Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
3,399	5,268	544	483	1,324	1,601	..	..	1990	'000	1
3,392	5,276	541	484	1,357	1,652	..	..	1991		
-0.2	0.2	-0.6	0.3	2.5	3.2	..	..		%
64.3	69.4	67.6	66.8	72.1	66.0	..	..	1990	%	2
63.4	68.3	66.9	67.1	72.5	66.4	..	..	1991		
3,055	4,937	505	449	1,231	1,469	..	..	1990	'000	3
2,987	4,770	494	449	1,246	1,489	..	..	1991		
-2.2	-3.4	-2.3	-0.1	1.2	1.4	..	..		%
13.8	15.8	18.2	17.1	15.0	16.7	..	..	1990	%	4
14.9	16.9	19.2	17.7	15.2	18.0	..	..	1991		
33.1	14.5	21.8	27.5	19.3	21.4	..	..	1990	%	5
36.7	21.8	29.7	31.8	21.3	25.7	..	..	1991		
345	331	39	34	93	132	..	..	1990	'000	6
405	506	48	36	111	163	..	..	1991		
17.6	53.1	21.0	5.5	19.7	23.6	..	..		%
10.1	6.3	7.2	7.0	7.0	8.3	..	..	1990	%	7
11.9	9.6	8.8	7.4	8.2	9.9	..	..	1991		
4.5	2.0	2.8	2.5	2.2	2.9	..	..	1990	%	8
5.8	4.2	3.9	2.8	3.0	4.1	..	..	1991		
										9
8.6	5.6	5.9	6.7	6.5	7.7	..	..	1990	%	
10.4	8.3	7.4	6.6	7.5	9.0	..	..	1991		
10.1	6.0	6.9	6.9	6.8	8.1	..	..	1990	%	
11.9	9.3	8.7	7.2	8.0	9.7	..	..	1991		
10.1	6.2	7.2	7.0	7.0	8.2	..	..	1990	%	
11.9	9.5	8.7	7.3	8.2	9.8	..	..	1991		
12.2	7.1	9.1	9.1	8.1	9.8	..	..	1990	%	
14.5	11.2	11.5	9.9	9.5	12.2	..	..	1991		
11.8	9.1	8.9	9.5	10.5	10.4	..	..	1990	%	
13.1	11.6	11.0	10.5	11.1	10.6	..	..	1991		
11.3	6.5	7.7	7.5	7.3	8.6	..	..	1990	%	
13.3	9.9	9.3	7.9	8.5	10.2	..	..	1991		
12.6	7.7	9.7	9.8	8.7	10.4	..	..	1990	%	10
14.9	11.9	12.1	10.7	10.1	12.8	..	..	1991		
23.7	13.8	19.3	16.7	15.3	16.5	..	..	1990	%	11
27.4	22.7	22.3	18.0	17.9	20.9	..	..	1991		

See Notes and definitions at end of table.

Key labour and income facts

No.		Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
Other labour market indicators								
*12	Employed at some time in the year, men, age 16 to 69	'000	1988	7,688	157	37	241	195
	– as proportion of male population age 16 to 69	%		86.6	82.6	88.1	83.7	82.3
		'000	1989	7,707	158	37	241	197
		%		85.8	81.3	87.0	83.5	82.1
	Employed at some time in the year, women, age 16 to 69	'000	1988	6,337	120	32	197	164
	– as proportion of female population age 16 to 69	%		69.7	62.2	74.4	64.6	66.9
		'000	1989	6,364	124	32	197	164
		%		69.2	63.9	74.6	64.4	66.0
*13	Unemployed at some time in the year, men, age 16 to 69	'000	1988	1,366	51	11	89	55
	– as proportion of male population age 16 to 69	%		15.4	26.8	26.2	17.0	23.2
		'000	1989	1,307	52	10	54	60
		%		14.5	26.6	23.3	18.8	25.1
	Unemployed at some time in the year, women, age 16 to 69	'000	1988	1,247	44	10	49	43
	– as proportion of female population age 16 to 69	%		13.7	22.8	23.3	16.1	17.6
		'000	1989	1,162	41	9	45	48
		%		12.6	21.2	21.7	14.7	19.2
*14	Full-time, full-year male paid workers	'000	1988	4,017	63	13	121	87
			1989	3,897	53	13	120	76
	Full-time, full-year female paid workers	'000	1988	2,597	35	11	76	60
			1989	2,613	33	11	76	52
*15	Days lost per full-time worker per year through illness or for personal reasons	days	1990	9.4	10.1	7.3	9.1	9.3
			1991	9.4	10.6	8.0	9.7	9.4
16	Proportion of paid workers absent two or more consecutive weeks because of illness or accident	%	1989	6.7	6.2	5.2	5.4	7.4
			1990	6.7	4.7	4.4	6.8	6.5
*17	Workers receiving Workers' Compensation for time-loss injuries	'000	1989	621	11	2	14	13
			1990	587	10	3	13	13
	Change	%		-5.5	-3.0	4.1	-7.4	-4.4
*18	Help-wanted Index (1981 = 100)		1990	114	153	133	161	162
			1991	75	100	106	111	116

See Notes and definitions at end of table.

Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
1,962	2,909	303	277	729	877	..	..	1988	'000	12
84.7	88.4	87.3	87.4	88.5	85.4	..	..		%
1,949	2,939	294	267	731	894	..	..	1989	'000	
83.4	81.1	84.7	84.8	87.8	84.9	..	..		%
1,542	2,462	257	228	621	716	..	..	1988	'000	
64.4	72.9	72.2	71.9	75.7	68.5	..	..		%
1,548	2,466	251	226	623	733	..	..	1989	'000	
64.1	72.1	70.8	71.3	75.2	68.5	..	..		%
400	404	53	43	128	172	..	..	1988	'000	13
17.3	12.3	15.3	13.6	15.5	16.7	..	..		%
386	377	57	40	126	145	..	..	1989	'000	
16.5	11.3	16.3	12.7	15.1	13.8	..	..		%
362	361	51	39	114	173	..	..	1988	'000	
15.1	10.7	14.3	12.3	13.9	16.6	..	..		%
323	360	44	32	91	167	..	..	1989	'000	
13.4	10.5	12.3	10.3	11.0	15.6	..	..		%
1,014	1,661	153	123	356	425	..	..	1988	'000	14
978	1,570	149	123	355	460	..	..	1989		
638	1,087	104	79	248	259	..	..	1988	'000	
657	1,081	101	82	260	261	..	..	1989		
10.5	9.5	9.0	8.0	7.3	8.5	..	..	1990	days	15
10.9	9.0	9.3	8.5	7.9	8.7	..	..	1991		
7.7	6.8	5.0	5.4	5.1	6.4	..	..	1989	%	16
7.5	6.7	6.4	5.8	5.2	6.8	..	..	1990		
219	201	22	14	45	80	..	1	1989	'000	17
205	184	21	14	39	84	..	1	1990		
-6.4	-8.2	-1.2	-1.2	-13.6	6.1	..	-17.6		%	
127	111	97	106	65	116	..	..	1990		18
85	69	66	79	41	80	..	..	1991		

See Notes and definitions at end of table.

Key labour and income facts

No.	Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
Unemployment insurance							
*19 Total beneficiaries	'000	1989	1,030	76	14	53	58
		1990	1,121	74	13	56	58
Change	%		8.8	-2.6	-1.8	5.5	1.2
*20 Total beneficiaries as a proportion of contributors	%	1989	22.8	59.4	45.7	33.5	39.0
		1990	24.3	60.0	46.9	33.8	39.7
*21 Regular beneficiaries without reported earnings	'000	1989	785	61	10	39	47
		1990	855	59	10	42	47
Change	%		8.9	-3.5	-3.3	6.4	-
Earnings (including overtime) and hours							
22 Average weekly earnings in current dollars	\$	1989	486.87	465.80	400.82	432.86	442.80
		1990	512.79	484.61	419.63	458.50	463.45
Change	%		5.3	4.0	4.7	5.9	4.7
23 Average weekly earnings in 1981 dollars	\$	1989	322.43	324.83	283.06	295.47	299.59
		1990	324.14	323.94	282.20	297.92	299.77
Change	%		0.5	-0.3	-0.3	0.8	0.1
24 Average weekly earnings of salaried employees in current dollars	\$	1989	598.87	559.86	522.94	537.24	552.16
		1990	635.97	586.43	548.55	580.85	580.34
Change	%		6.2	4.7	4.9	8.1	5.1
25 Average weekly earnings of salaried employees in 1981 dollars	\$	1989	396.60	390.42	369.31	366.72	373.59
		1990	402.00	392.00	368.90	377.42	375.38
Change	%		1.4	0.4	-0.2	2.9	0.5
26 Average weekly earnings of hourly paid employees in current dollars	\$	1989	388.20	363.16	264.60	341.66	362.48
		1990	403.41	372.40	280.59	357.91	371.54
Change	%		3.9	2.5	6.0	4.8	2.5
27 Average weekly earnings of hourly paid employees in 1981 dollars	\$	1989	257.09	253.25	186.86	233.22	245.25
		1990	255.00	248.93	188.70	232.56	240.32
Change	%		-0.8	-1.7	1.0	-0.3	-2.0
28 Average weekly hours of hourly paid employees	hrs	1989	31.8	34.8	31.7	32.7	34.1
		1990	31.5	34.6	31.5	32.2	33.7
29 Average weekly overtime hours of hourly paid employees	hrs	1989	1.2	1.6	0.4	0.8	1.0
		1990	1.1	1.5	0.5	0.8	0.9
Major wage settlements							
*30 Number of agreements		1990	505	11	1	7	18
		1991	531	15	4	19	24
*31 Number of employees	'000	1990	1,149	18	1	15	29
		1991	1,327	52	7	29	42
*32 Increase in base rate on annual basis	%	1990	5.7	7.0	5.8	5.4	6.2
		1991	3.6	2.3	5.5	0.5	2.5

See Notes and definitions at end of table.

Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
337	214	35	29	78	134	2	2	1989	'000	19
368	280	35	27	74	132	2	2	1990		
9.2	30.8	-1.2	-6.1	-4.2	-1.3	-	5.8		%	
28.8	15.1	22.2	22.8	20.1	26.3	27.2	13.0	1989	%	20
30.7	18.1	21.8	22.1	19.0	25.7	27.3	12.2	1990		
270	147	26	22	59	101	1	1	1989	'000	21
293	202	26	20	56	98	1	1	1990		
8.6	36.8	-2.4	-8.1	-5.1	-2.3	-0.7	5.0		%	
472.82	509.08	445.08	425.99	484.47	491.63	585.91	663.86	1989	\$	22
502.02	535.78	462.78	445.80	509.86	515.91	612.22	705.48	1990		
6.2	5.2	4.0	4.7	5.2	4.9	4.5	6.3		%	
312.71	326.33	299.11	289.59	339.98	342.60	..	..	1989	\$	23
318.54	327.89	297.23	290.42	338.33	340.98	..	..	1990		
1.9	0.5	-0.6	0.3	-0.5	-0.5	..	..		%
564.69	631.12	562.52	558.45	617.83	594.35	713.95	728.63	1989	\$	24
602.37	670.17	590.77	581.86	655.15	628.93	747.27	776.47	1990		
6.7	6.2	5.0	4.2	6.0	5.8	4.7	6.6		%	
373.47	404.56	378.04	379.06	433.56	414.18	..	..	1989	\$	25
382.21	410.14	379.43	379.74	434.74	415.68	..	..	1990		
2.3	1.4	0.4	-0.2	0.3	0.4	..	..		%
387.87	403.25	345.85	309.83	356.00	412.73	439.74	568.71	1989	\$	26
406.93	415.59	356.20	327.33	373.65	432.05	446.27	610.01	1990		
4.9	3.1	3.0	5.6	5.0	4.7	1.5	7.3		%	
256.53	258.49	232.43	210.63	249.82	287.62	..	..	1989	\$	27
258.20	254.34	228.77	213.24	247.94	285.56	..	..	1990		
0.7	-1.6	-1.6	1.2	-0.8	-0.7	..	..		%
32.6	32.0	31.2	28.8	30.5	30.5	32.1	33.8	1989	hrs	28
32.4	31.4	31.2	28.7	30.2	30.3	35.2	35.5	1990		
1.0	1.3	0.9	0.8	1.5	1.1	1.9	3.4	1989	hrs	29
0.9	1.1	0.9	0.9	1.6	1.1	2.2	3.8	1990		
102	206	14	8	56	32	..	..	1990		30
103	153	41	5	43	55	..	..	1991		
405	396	14	20	103	31	..	..	1990	'000	31
450	269	75	11	56	72	..	..	1991		
4.8	6.5	5.1	3.9	5.6	7.0	..	..	1990	%	32
3.2	5.8	2.4	4.4	5.3	5.0	..	..	1991		

See Notes and definitions at end of table.

Key labour and income facts

No.		Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
Labour income								
33	Labour income in current dollars	\$ million	1988	325.2	4.5	1.0	8.2	6.3
			1989	354.9	4.8	1.0	8.8	6.9
	Change	%		9.1	6.8	7.7	7.2	8.2
34	Labour income per employee in current dollars	\$	1988	30,300	26,300	22,400	25,600	25,400
			1989	32,300	26,700	23,500	26,800	27,000
	Change	%		6.6	1.5	5.0	4.7	6.3
35	Labour income per employee in 1981 dollars	\$	1988	21,100	19,000	16,400	18,300	18,000
			1989	21,400	18,600	16,600	18,300	18,300
	Change	%		1.5	-1.9	1.2	0.2	1.6
*36	Net income from self-employment as a proportion of money income	%	1989	5.8	3.9	9.1	5.9	4.2
			1990	5.2	3.6	7.6	5.4	4.9
Earnings of full-time, full-year workers								
*37	Average earnings of men working full time, full year	\$	1989	35,100	30,600	25,900	31,900	31,200
			1990	36,900	30,000	27,100	33,200	32,500
	Change	%		5.0	-1.9	4.6	4.1	4.2
*38	Average earnings of women working full time, full year	\$	1989	23,100	21,700	19,800	21,100	19,400
			1990	24,900	21,900	21,700	24,000	21,400
	Change	%		7.9	1.1	9.4	13.5	10.3
*39	Ratio of female-to-male earnings	%	1989	65.8	70.8	76.2	66.2	62.3
			1990	67.6	73.0	80.0	72.1	65.8
Family income								
*40	Average family income	\$	1989	50,100	39,600	38,700	43,100	40,700
			1990	51,600	40,800	39,700	44,400	42,400
*41	Median family income	\$	1989	44,500	35,700	34,500	37,600	36,300
			1990	46,100	35,300	34,900	39,900	38,100
*42	Average income of unattached individuals	\$	1989	21,100	19,000	14,400	17,700	17,200
			1990	22,600	19,200	17,700	20,000	18,400
*43	Median income of unattached individuals	\$	1989	16,600	14,700	11,700	12,400	13,000
			1990	17,500	13,500	13,600	16,500	13,900
44	Average family taxes	\$	1988	8,600	5,100	4,700	6,700	5,800
			1989	9,600	6,200	5,900	7,400	6,600
45	Average family income after tax	\$	1988	37,600	30,900	29,800	33,000	31,500
			1989	40,400	33,500	32,800	35,700	34,000

See Notes and definitions at end of table.

Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
77.5	140.3	11.1	8.6	30.0	35.9	.4	1.0	1988	\$ million	33
83.2	154.7	11.7	9.0	32.6	40.3	.4	1.0	1989		
7.3	10.2	5.6	4.3	8.5	12.3	7.0	6.2			
									%	
29,200	32,400	26,600	25,000	29,700	30,300	..	..	1988	\$	34
30,800	35,100	27,700	26,500	31,100	32,000	..	..	1989		
5.7	8.3	4.3	6.0	4.9	5.4	..	..	
									%	
20,100	22,000	18,700	17,700	21,700	22,100	..	..	1988	\$	35
20,400	22,500	18,600	18,000	21,800	22,300	..	..	1989		
1.3	2.3	-0.4	1.5	0.7	0.9	..	..	
									%	
4.4	6.4	5.7	10.8	5.6	5.9	..	..	1989	%	36
4.5	5.4	5.3	8.7	5.9	4.9	..	..	1990		
34,000	37,400	31,600	27,900	34,400	35,600	..	..	1989	\$	37
35,500	39,300	30,900	28,300	36,000	39,700	..	..	1990		
4.5	5.1	-2.3	1.3	4.6	11.4	..	..	
									%	
21,200	25,200	20,700	20,400	22,800	22,600	..	..	1989	\$	38
24,400	25,900	22,400	21,300	24,100	26,500	..	..	1990		
14.9	2.9	8.2	4.5	5.8	17.2	..	..	
									%	
62.4	67.4	65.6	72.9	66.3	63.6	..	..	1989	%	39
68.5	66.0	72.5	75.4	67.0	66.8	..	..	1990		
44,900	57,300	46,600	43,000	49,700	49,400	..	..	1989	\$	40
47,200	57,000	47,200	44,200	52,000	54,400	..	..	1990		
40,200	50,500	41,300	38,100	44,900	46,000	..	..	1989	\$	41
42,000	50,900	42,900	38,400	47,200	49,200	..	..	1990		
18,300	24,100	19,200	18,700	20,900	22,300	..	..	1989	\$	42
20,300	24,800	20,200	19,800	23,800	23,900	..	..	1990		
13,700	20,400	14,900	14,100	16,600	18,600	..	..	1989	\$	43
14,500	19,800	15,800	15,300	19,200	19,000	..	..	1990		
7,900	10,100	7,700	7,000	8,300	8,100	..	..	1988	\$	44
8,900	11,400	8,600	7,700	9,200	9,300	..	..	1989		
33,500	42,700	35,400	33,300	38,000	37,200	..	..	1988	\$	45
36,000	45,900	38,000	35,300	40,500	40,100	..	..	1989		

See Notes and definitions at end of table.

Key labour and income facts

No.		Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
*46	Proportion below the low income cut-off (1986 base):							
	- families	%	1989 1990	11.1 12.1	12.9 14.3	9.9 10.2	12.7 12.0	12.3 12.7
	- unattached individuals	%	1989 1990	34.4 34.1	34.9 38.9	37.1 31.9	38.1 27.6	38.8 34.6
	- persons (population)	%	1989 1990	13.6 14.6	14.3 15.6	12.2 12.5	14.4 13.4	13.9 14.3
	- children (less than 16 years)	%	1989 1990	15.0 17.4	17.9 19.9	13.9 13.9	16.3 16.8	16.7 17.4
	- elderly (65 years and over)	%	1989 1990	21.4 19.3	16.3 16.2	16.7 16.2	18.6 13.0	14.8 13.9
Households and dwellings								
*47	Average household income	\$	1989 1990	43,800 45,300	37,500 38,400	34,300 35,000	37,700 39,800	36,800 38,200
48	Proportion of households with:							
	- VCRs	%	1990 1991	66.3 68.6	67.6 67.8	62.2 59.6	66.7 67.8	64.0 66.5
	- microwaves	%	1990 1991	68.2 73.5	56.6 65.0	57.8 63.8	67.9 72.4	66.8 72.5
	- two or more automobiles	%	1990 1991	24.7 25.1	16.2 13.6	26.7 21.3	19.8 20.2	21.5 20.3
	- vans and trucks	%	1990 1991	23.4 22.2	32.4 34.5	31.1 31.9	23.9 25.8	31.6 30.3
	- air conditioners	%	1990 1991	24.4 26.7	-- --	-- --	3.5 3.7	5.7 6.4
49	Proportion of owner-occupied dwellings	%	1990 1991	63.7 63.7	79.2 78.5	71.1 70.2	72.0 71.8	75.3 76.5
*50	Proportion of all owner-occupied dwellings that are mortgage free	%	1990 1991	51.1 51.3	70.8 71.2	59.4 60.6	57.6 56.8	58.1 56.2
51	Number of occupied dwellings in need of repair	'000	1990 1991	2,561 2,416	54 54	17 13	112 104	81 87
52	Dwellings in need of repair as a proportion of all occupied dwellings	%	1990 1991	26.6 24.5	31.3 30.5	37.7 27.7	35.2 31.9	32.8 34.7
*53	Median rent-to-income ratio	%	1990 1991	20 21	17 16	25 23	23 21	19 20

See Notes and definitions at end of table.

Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
46										
13.0	8.1	13.4	12.7	12.9	12.3	..	..	1989	%	
14.5	9.8	14.4	14.0	12.9	11.9	..	..	1990	%	
44.2	28.4	36.4	32.8	34.8	28.4	..	..	1989	%	
44.0	28.5	35.7	29.3	32.6	31.0	..	..	1990	%	
16.7	10.1	16.9	16.0	15.5	13.8	..	..	1989	%	
18.0	11.7	17.8	16.6	15.4	14.6	..	..	1990	%	
16.5	11.4	22.5	20.7	17.7	14.4	..	..	1989	%	
18.1	15.3	22.8	20.7	19.1	17.4	..	..	1990	%	
35.9	14.8	20.7	13.3	20.6	20.5	..	..	1989	%	
28.8	15.8	19.8	10.0	19.2	18.0	..	..	1990	%	
39,200	50,600	40,000	37,100	43,800	41,800	..	..	1989	\$	47
40,500	50,600	40,500	38,200	46,200	47,100	..	..	1990	\$	47
48										
63.2	69.0	63.1	60.6	71.6	64.0	..	..	1990	%	
64.9	71.0	66.3	64.3	72.6	68.8	..	..	1991	%	
65.5	68.2	68.3	74.9	76.9	68.3	..	..	1990	%	
70.6	73.8	75.1	78.6	80.2	74.0	..	..	1991	%	
21.6	26.5	22.2	25.1	29.7	26.7	..	..	1990	%	
21.4	27.4	26.0	23.1	28.8	27.5	..	..	1991	%	
13.8	20.5	29.1	37.2	37.7	32.3	..	..	1990	%	
12.8	18.2	27.0	40.9	38.3	30.7	..	..	1991	%	
13.3	44.9	43.8	32.1	6.9	6.1	..	..	1990	%	
15.2	48.0	45.0	32.3	10.1	8.5	..	..	1991	%	
55.2	65.6	67.8	70.7	65.8	64.2	..	..	1990	%	49
56.8	64.1	68.4	72.4	64.4	65.1	..	..	1991	%	49
46.5	50.6	56.3	58.9	47.2	52.0	..	..	1990	%	50
47.5	50.2	55.3	63.1	48.8	52.0	..	..	1991	%	50
613	910	112	112	261	290	..	..	1990	'000	51
553	861	115	93	253	282	..	..	1991	'000	51
24.2	26.2	28.9	31.3	30.0	23.9	..	..	1990	%	52
21.1	24.0	29.6	25.9	28.2	23.0	..	..	1991	%	52
19	20	20	21	20	23	..	..	1990	%	53
20	22	21	22	21	24	..	..	1991	%	53

See Notes and definitions at end of table.

Key labour and income facts

No.	Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
54 Labour force income profile							
Number of taxfilers	'000	1989	17,903	361	83	589	479
Income:							
Number reporting	'000	1989	17,849	360	83	588	478
Amount	\$ million	1989	417,810	6,244	1,508	11,741	8,895
Median	\$	1989	18,100	12,800	14,500	15,600	14,400
Canadian index	%	1989	100.0	70.7	80.1	86.2	79.6
Labour force income:							
Number reporting	'000	1989	14,108	288	68	452	366
Amount	\$ million	1989	334,074	5,275	1,211	9,329	7,197
Employment income:							
Number reporting	'000	1989	13,907	278	67	444	359
Amount	\$ million	1989	323,421	4,495	1,070	8,797	6,594
Median	\$	1989	18,600	10,200	11,500	15,800	13,800
Canadian index	%	1989	100.0	54.8	61.8	84.9	74.2
Self-employment income:							
Number reporting	'000	1989	1,823	32	12	53	35
Amount	\$ million	1989	20,813	229	111	656	347
Unemployment Insurance benefits:							
Number reporting	'000	1989	2,817	143	27	132	126
Amount	\$ million	1989	10,654	779	141	532	603
U.I. dependency ratio	%	1989	3.29	17.34	13.21	6.05	9.15
Canadian index	%	1989	100.0	527.1	401.5	183.9	278.1
55 Economic dependency profile							
Transfer payments:							
Amount	\$ million	1989	49,494	1,401	311	1,932	1,613
Employment income	\$ million	1989	323,421	4,495	1,070	8,797	6,594
Economic dependency ratio (EDR)	%	1989	15.30	31.17	29.02	21.97	24.46
Canadian index	%	1989	100.0	203.7	189.7	143.6	159.9
Unemployment Insurance benefits:							
Amount	\$ million	1989	10,654	779	141	532	603
Contribution to EDR	%	1989	3.29	17.34	13.21	6.05	9.15
Family Allowance benefits:							
Amount	\$ million	1989	2,521	64	14	86	73
Contribution to EDR	%	1989	0.78	1.42	1.27	0.98	1.11
Federal sales tax credits:							
Amount	\$ million	1989	580	17	3	23	20
Contribution to EDR	%	1989	0.18	0.38	0.30	0.26	0.30
Child Tax Credit benefits:							
Amount	\$ million	1989	2,094	68	14	81	73
Contribution to EDR	%	1989	0.65	1.51	1.33	0.92	1.10
Old Age Security benefits:							
Amount	\$ million	1989	8,678	144	42	297	231
Contribution to EDR	%	1989	2.68	3.21	3.90	3.38	3.50
CPP/QPP benefits:							
Amount	\$ million	1989	10,620	154	43	382	271
Contribution to EDR	%	1989	3.28	3.42	4.00	4.34	4.11
Other pension benefits:							
Amount	\$ million	1989	14,347	175	54	531	343
Contribution to EDR	%	1989	4.44	3.90	5.01	6.04	5.19

Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
4,567	6,719	749	624	1,593	2,093	17	29	1989	'000	54
4,553	6,697	746	622	1,589	2,088	17	29	1989	'000	
94,861	177,048	14,837	12,508	38,082	50,854	436	796	1989 \$	million	
16,600	20,500	15,400	15,600	18,500	18,800	22,100	20,500	1989	\$	
91.7	113.3	85.1	86.2	102.2	103.9	122.1	113.3	1989	%	
3,487	5,404	558	488	1,330	1,625	15	26	1989	'000	
77,172	141,750	11,420	9,322	30,871	39,393	394	740	1989 \$	million	
3,422	5,357	548	482	1,313	1,597	15	26	1989	'000	
73,708	139,460	11,066	9,028	30,063	38,046	374	720	1989 \$	million	
17,900	20,900	16,200	14,400	18,300	19,100	21,400	21,800	1989	\$	
96.2	112.4	87.1	77.4	98.4	102.7	115.1	117.2	1989	%	
334	649	101	137	231	236	2	2	1989	'000	
4,211	8,552	862	1,160	1,879	2,776	16	14	1989 \$	million	
874	746	103	83	224	350	4	5	1989	'000	
3,464	2,290	354	295	808	1,347	20	20	1989 \$	million	
4.70	1.64	3.20	3.27	2.69	3.54	5.23	2.84	1989	%	
142.9	49.8	97.3	99.4	81.8	107.6	159.0	86.3	1989	%	
12,321	17,564	2,125	1,810	3,748	6,585	37	48	1989 \$	million	55
73,708	139,460	11,066	9,028	30,063	38,046	374	720	1989 \$	million	
16.72	12.59	19.20	20.05	12.47	17.31	9.82	6.60	1989	%	
109.3	82.3	125.5	131.0	81.5	113.1	64.2	43.1	1989	%	
3,464	2,290	354	295	808	1,347	20	20	1989 \$	million	
4.70	1.64	3.20	3.27	2.69	3.54	5.23	2.84	1989	%	
621	894	110	108	258	284	3	8	1989 \$	million	
0.84	0.64	0.99	1.19	0.86	0.75	0.75	1.06	1989	%	
168	179	30	25	50	63	--	1	1989 \$	million	
0.23	0.13	0.28	0.28	0.17	0.17	0.12	0.16	1989	%	
552	616	111	116	224	229	2	7	1989 \$	million	
0.75	0.44	1.00	1.28	0.75	0.60	0.58	1.04	1989	%	
2,093	3,257	470	386	601	1,152	2	3	1989 \$	million	
2.84	2.34	4.25	4.27	2.00	3.03	0.64	0.39	1989	%	
2,513	4,270	472	401	739	1,370	4	3	1989 \$	million	
3.41	3.06	4.26	4.44	2.46	3.60	1.01	0.41	1989	%	
2,909	6,060	578	480	1,069	2,139	6	5	1989 \$	million	
3.95	4.35	5.22	5.31	3.56	5.62	1.49	0.71	1989	%	

Key labour and income facts

Notes and definitions

No.

- 1 Persons aged 15 and over who are employed or unemployed.
- 2 Labour force as a proportion of the population aged 15 and over.
- 4 Persons who usually work less than 30 hours per week.
- 7 Unemployed as a proportion of the labour force.
- 8 This rate, and rates shown as Indicators 9 and 10, are described in *The labour force* (71-001), February 1987.
- 9 The full-time labour force includes persons working full time, those working part time involuntarily and unemployed persons seeking full-time work.

The part-time labour force includes persons working part time voluntarily and unemployed persons seeking part-time work.

On the margins of the labour force includes persons not looking for work because they believe none is available or because they are waiting for recall or for replies from employers.
- 10 The rate shows hours lost through unemployment (unemployed multiplied by average actual weekly hours) and through underemployment (that is, short-time work schedules and involuntary part-time employment) as a proportion of hours worked plus hours lost.

No.

- 20 Represents the proportion of individuals paying Unemployment Insurance premiums at some time during the calendar year who also collected Unemployment Insurance benefits.
- 30 Data are for agreements involving bargaining units of 500 or more employees. Canada figures include workers covered by federal labour legislation plus agreements involving workers in more than one province.
- 33 Labour income comprises gross wages and salaries (including directors' fees, bonuses, commissions, gratuities, taxable allowances and retroactive pay) and supplementary labour income (payments made by employers for the benefit of employees, including contributions to health and welfare schemes, pension plans, Workers' Compensation and unemployment insurance).
- 34 Labour income per employee is calculated using LFS estimates of paid workers excluding those absent without pay.
- 46 For an explanation of the methodology underlying the low income cut-offs, see *Income Distributions by Size in Canada* (Annual, Catalogue 13-207).
- 54-55 Data are derived from tax returns filed in the spring of the year following the reference year. The mailing address at the time of filing determines the province.

In the works

Here are some of the topics to be featured in upcoming issues of Perspectives on labour and income.

■ **Mid-year review**

A look at the labour market and other leading indicators during the first six months of 1992.

■ **Back injuries**

During the 1980s, over one-quarter of all Workers' Compensation claims for time lost from work were for back injuries. The article describes common work accidents and the industries and occupations where most back injuries occur.

■ **Workers on the move: Quits**

A study of the quit rates observed in 1988 and some of the factors affecting those rates.

■ **Workers on the move: Layoffs**

This article identifies the characteristics of workers affected by permanent layoffs and the types of industries and firms in which they work.

■ **The tourism industry – a labour market profile**

The study compares jobs in the tourism industry with those in other service-sector industries and in the goods-producing sector.

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This paper traces recent developments among discouraged workers and offers some reasons why their numbers during the recent recession have been running at about half what they were in the early 1980s.

Symbols

The following standard symbols are used in Statistics Canada publications:

- .. figures not available
- ... figures not appropriate or not applicable
- nil or zero
- amount too small to be expressed
- p preliminary figures
- r revised figures
- x confidential to meet secrecy requirements of the Statistics Act

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Forum

From the editor

■ "Globalization" is the buzzword of the nineties, connoting threat or promise depending on one's point of view. So is it surprising that consumers also expect data analysis to become global? At *Perspectives*, experience suggests that the general interest in internationally comparable data is fairly intense: feedback from readers indicates that considerable demand exists for information about Canada's standing among other industrialized countries. As statisticians, it seems we face a new criterion for disseminating data – providing users with international data that compare with domestic data. This is not an easy task.

Analysts and researchers studying trends across national boundaries encounter "home-grown statistics," that is, data developed to serve goals unique to each nation. These data may purport to quantify the same phenomenon in two different countries, but often they do not because the underlying methodologies and subject matter concepts are dissimilar. For example, Canadian and European statistics on employment and unemployment are designed to meet the needs of different government programs, legislative requirements and/or social policies, and so the national data will not provide internationally comparable numbers even though the labels on the statistics are the same. In other words, the similarity of the terminology can trick the unwary into expecting data from different countries to measure the same thing.

Even when data are exactly comparable methodologically, problems can arise in the interpretation of results. For example, if a clone of the Canadian Labour Force Survey (LFS) was used to measure unemployment in Europe as well as in Canada, analysts would still have to contend with data disparities caused by major differences in national practices. In North America, a reduction in demand for labour is generally met by temporarily laying off workers; in much of continental Europe, by law and by custom, employers generally substitute work sharing for temporary layoffs. Since people who are still working (albeit shorter hours) are still considered employed under the LFS definition, the LFS results for the two continents would show unemployment rising in Canada and remaining stable in Europe, even though demand for labour had fallen in both labour markets.

Comparability problems are not unique to international data. We sometimes encounter the same difficulties with Canadian data, and this issue of *Perspectives* (quite inadvertently) proves it. "Discouraged workers – where have they gone?" uses a household survey that is a supplement to another household survey, but which asks different questions and elicits different answers from the same respondents. "A note on Canadian unemployment since 1921" is based on historical data amalgamated from very different sources. And the two articles on job turnover use data sources derived from different collection methods (household surveys and adminis-

trative records). So, an analyst who wants to compare, say, job separations in Canada with those in other countries, first has to choose which Canadian measure is most suitable.

We face another variant of the problem comparing data across provincial boundaries. An especially cogent example of this is provided by Cynthia Haggard-Guénette and Joanne Proulx, whose study "Back injuries at work, 1982-1990" is based on administrative data derived from provincially run compensation programs. Each province legislates what it perceives to be the best program for the workers under its jurisdiction; consequently, their compensation systems function differently. The directly resulting data differ as well, and only through effort and co-operation can any degree of statistical comparability be achieved.

Because of the challenges inherent in making administratively based data comparable interprovincially, Statistics Canada is sympathetic to everyone engaged in the pursuit of international comparability. One major success in this field has been the implementation of the Harmonized Commodity Description and Coding System (HS). The HS is a prime example of how international co-operation can render statistics comparable from one country to another. The HS establishes a common classification code for identifying goods flowing within and between countries, making it easy for analysts and governments to compare trade data and facilitate trade discussions. The HS is being used by 93 countries, representing about 80% of world trade.

In Europe, the process has gone even further under the guidance of Eurostat, the European Community's statistical agency. Data differences among the various nations have been so great that, in some cases, Eurostat's concerns about the comparability of the data supplied by EC members

prompted the Community to introduce new surveys to meet its statistical requirements. The EC took this course with unemployment statistics, for instance. Many European countries had a long-standing practice of deriving their labour market information from what Canadians would call unemployment insurance programs; however, the vagaries in the underlying programs were so great that Eurostat embarked on household surveys to collect data that would be comparable across national boundaries. The Eurostat unemployment survey soon blossomed into a general population survey providing much richer data on the characteristics of Europe's citizens.

In Canada, we have long known something the Europeans are just discovering – the appetite for statistics grows with the feeding. Demand for figures that are more flexible and more useful for a wider network of audiences and applications may provide greater incentive to develop more comparable databases for both domestic and international purposes.

Ian Macredie
Editor-in-Chief

□

We welcome your views on articles and other items that have appeared in *Perspectives on labour and income*. Additional insights on the data are also welcome, but to be considered for publication, communications should be factual and analytical. We encourage readers to inform us about their current research projects, new publications, data sources and upcoming events relating to labour and income.

Statistics Canada reserves the right to select and edit items for publication. Correspondence, in either official language, should be addressed to: Susan Crompton, Forum and What's new? Editor, *Perspectives on labour and income*, 5-A Jean Talon Building, Statistics Canada, Ottawa, K1A 0T6, or call (613) 951-0178.

Highlights

Here are some key findings from the articles in this issue of Perspectives on labour and income.

Workers on the move: Quits

■ Canadian workers held 15.3 million jobs in 1988. Over the course of the year, they quit roughly 2.7 million of these jobs, or almost one in five.

■ Workers in services and sales-related occupations are more likely to leave their jobs than those in managerial or professional occupations: women are 1.4 times more likely to leave, while men are 1.7 times more likely to quit.

■ Workers in small firms have higher quit rates than those in large firms: quit rates in firms with less than 20 employees are almost twice as high as those in firms with 500 or more employees.

■ Women's overall quit rate is somewhat higher than men's – 20% compared with 16%.

Workers on the move: Permanent layoffs

■ In 1988, approximately 1 million workers were laid off permanently. At 7.1%, the permanent layoff rate for that year approached the decade high of 8.7% observed in 1982.

■ High-wage jobs have lower permanent layoff rates. In 1988, they varied from around 10% in jobs paying \$5 to \$7 an hour to about 4% in jobs paying \$20 or more.

■ The layoff rate among 16 to 24 year-olds (10%) is about twice that of persons 25 and over.

■ The construction, forestry and mining industries experienced the highest permanent layoff rates.

■ In 1988, small firms (those with less than 20 employees) accounted for 20% of employment but 41% of permanent layoffs. Firms with 500 and more employees had 40% of employment, and only 17% of permanent layoffs.

A note on Canadian unemployment since 1921

■ The recessions of the early 1980s and early 1990s resulted in high unemployment rates. Some people have compared these rates with those of the Great Depression of the 1930s.

■ The national unemployment rate in mid-1933, estimated to have been about 19%, was the worst recorded over the entire 1921 to 1992 period. It was also about 8 percentage points higher than the highest post-World War II June rate, 11.5%, recorded 50 years later in 1983.

■ The 1983 rate was about the same as that estimated to have prevailed in 1938 and 1939. In June 1992, the unemployment rate was slightly lower (10.8%).

■ From 1927 to 1929, and again during and after the Second World War, retrospectively calculated unemployment rates fell to 3% or less, whereas the mid-year unemployment rates in the past 15 years never dropped much below 7%.

Back injuries at work, 1982-1990

■ Throughout the past decade, back injuries have accounted for more Workers' Compensation claims than injuries to any other body part. In 1990, for example, Workers' Compensation Boards across Canada paid lost time benefits to workers for 164,000 back injuries.

■ Back-injury claims grew 33% between 1982 and 1990, while other injury claims increased only 18%. Thus, over the entire decade, back injuries constituted a gradually rising share of compensated work injuries: 28% in 1990, compared with 26% in 1982.

■ Far more men than women suffer work-related back injuries (121,000 compared with 42,000 in 1990). This probably reflects the concentration of men in industries and occupations where accidents tend to occur. In 1990, men accounted for 74% of all time-loss back-injury claims, although they comprised 54% of paid workers.

■ In 1990, almost all back injuries were sprains or strains (83%). Nearly two-thirds of all job-related back injuries sustained by both men and women in 1990 were due to overexertion, usually while lifting heavy objects.

Discouraged workers – where have they gone?

■ The increase in the number of discouraged workers has been slight during the recent recession and sluggish economic recovery, rising from 70,000 in March 1989 to only 99,000 in March 1992.

■ In contrast, in the wake of the previous recession the number of discouraged workers almost doubled to 197,000 in March 1983 from a level of 101,000 in March 1981.

■ Among the factors contributing to the low number of discouraged workers during the recent recession are the declining share of youths in the working age population, an increase in educational enrolment and training, a rising trend towards early retirement and a growing number of persons who did not look for work because they were waiting for recall to a former job.

■ Close to one-quarter of discouraged workers in 1992 had some postsecondary education or a university degree, compared with only 14% in 1983.

■ Nine years ago, approximately 40% of the nation's discouraged workers resided in Quebec and another 21% in the Atlantic region. In 1992, Quebec's share had fallen to 32% of the national total and that of the Atlantic had risen to 30%.

What's new?

■ Labour market and income data for small geographic areas for 1990 are available from the Small Area and Administrative Data Division.

■ Results of the first national Survey on Ageing and Independence are now available. The data cover a broad range of characteristics that reflect the quality of life of older Canadians.

■ *Rural and small town Canada* is a new comprehensive portrait of Canadians living in small towns. The report places considerable emphasis on businesses and labour markets in smaller communities and on related themes such as income, health and social conditions.

■ Statistics Canada recently released an electronic version of its 1991 Census dictionary of terms and definitions. The *1991 Census electronic dictionary* will allow users to find detailed information about all variables used by the 1991 Censuses of Population and Agriculture.

■ The Bureau of Labour Information at Labour Canada provides up-to-date information about the state of labour negotiations and wage settlements. Two of the Bureau's monthly reports will interest *Perspectives* readers.

■ The National Home-Based Business Project Committee recently released the results of its investigation into home-based business activity in Canada.

■ *Women in science and engineering, volume II: colleges*, examines women's enrolment in and graduation from science and engineering programs in over 200 public colleges.

■ *Human resource challenges of education, computers and retirement*, the final analytical report on the 1989 General Social Survey (GSS), provides valuable insights into the way Canadians are preparing to face the future. □

Workers on the move: Quits

René Morissette, Garnett Picot and Wendy Pyper

Note: The first two articles in this issue of *Perspectives* conclude our series on labour turnover. "Workers on the move: An overview of labour turnover" and "Hirings" can be found in the Summer 1992 issue.

Canadian workers held 15.3 million jobs in 1988. Over the course of the year, they quit roughly 2.7 million of these jobs, or almost one in five.

While layoffs are initiated by the employer, quits are permanent job separations initiated by employees. The labour turnover these quits cause can be costly to employers, who must hire and train new workers. Firms with well-educated and skilled workforces can face particularly high replacement costs. If quit rates become excessive, the firm's competitiveness may be at risk. On the other hand, leaving one job for another may lead to a better match between the worker and the job and result in greater productivity.

People leave their jobs for a variety of reasons, such as finding new jobs, dissatisfaction with low wages, going to school or personal and family responsibilities (see *A few words about the data*). Young workers with low-paying jobs are likely to have high quit rates. Similarly, people in industries or

occupations with poor working conditions may resign more often than others. Workers in large firms may quit less frequently than people in small firms because they can change jobs without changing employers. Finally, women may leave their jobs more often for family-related reasons.

What is a high quit rate? To help employers and analysts address this question, this article uses data on quits in Canada from the Labour Market Activity Survey.¹ It documents the quit rates observed in 1988 and studies some of the factors affecting those rates: age, wage rate, industry, and sex. Quits are divided into two categories: those for economic reasons and those for non-economic reasons. Where appropriate, this article uses multivariate analysis to better understand the factors that may explain the variations observed (see *Appendix: Estimating the probability of quitting*). Since quits fall during recessions and rise during periods of economic expansion, the evidence for 1988 is best viewed as representative of the situation common in expansionary years.²

Workers who quit are young

Although young workers represent less than 20% of all employed workers, they account for half of all quits (Table 1). One probable explanation is that this group often "job shops" to acquire information about such job characteristics as earnings opportunities

René Morissette, Garnett Picot and Wendy Pyper are with the Business and Labour Market Analysis Group. They can be reached at 951-8213.

A few words about the data

This study is based on the results of the Labour Market Activity Survey conducted by Statistics Canada in 1988 and 1989. (See *Appendix: Data sources on hirings and separations*, p. 26.) The sample includes all jobs held by workers under 65 years of age employed in all industries except agriculture and fishing. The tables and charts are based on a sample of 46,700 jobs.

In this study, quits are divided into two types: quits for economic reasons and those for non-economic reasons. Quits for economic reasons include:

- found a new job
- working conditions
- low pay
- move to new residence
- no opportunity for advancement
- worried about job security/reduction in hours
- other, left job.

Quits for non-economic reasons include:

- own illness or disability
- personal or family responsibilities (including pregnancy)
- going to school.

The distinction between economic and non-economic reasons is not as straightforward as it first appears. For instance, the economic reason "move to a new residence" could be classified under non-economic reasons, while in certain cases "going to school" could fall under economic reasons. The aggregate quit rate captures all quits, whether the respondent considered them "economic" or "non-economic."

and working conditions. These types of quits become less frequent as experience leads to a better match between the worker and the firm. And because young people often leave jobs to return to school, their quit rates for non-economic reasons are considerably higher than those for older workers.

Another reason why quit rates for younger workers are high is that they generally receive low wages. Combined with the greater tendency to return to school, these factors may account for much of the difference in quit rates observed among age groups. For instance, the aggregate quit rate of workers aged 16 to 24 is three times greater than that of workers aged 35 to 44. But when the influence of wages, student status and all other factors examined in this study are controlled for, the chances that a young worker will quit drop to about 1.6 times that of the older group for both men and women (Chart A). (See "Controlling for ..." and *Appendix: Estimating the probability of quitting* for a complete list of the factors, or explanatory variables, controlled for in the logistic regression.)

Table 1
Quit rates by age, 1988

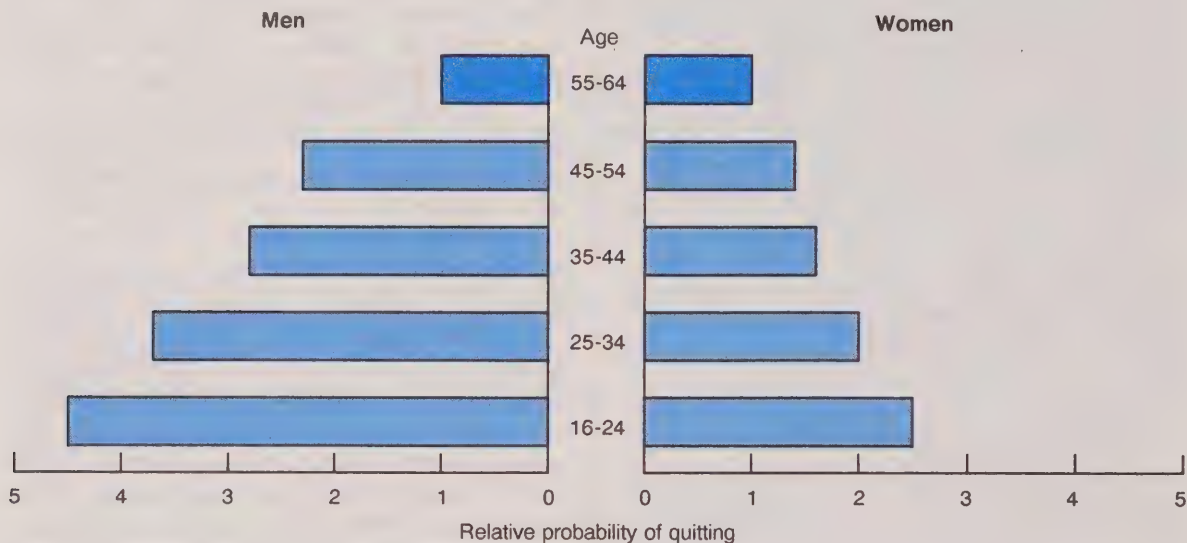
	Quit rates			Distribution of quits	Distribution of employment*
	Aggregate or total	Economic reasons	Non-economic reasons		
			%		
Total	18.0	12.6	5.4	100.0	100.0
16-24 years	32.5	19.5	13.0	51.5	17.3
25-34 years	16.9	13.7	3.2	28.8	32.4
35-44 years	10.1	8.1	2.0	12.2	26.0
45-54 years	8.0	6.9	1.1	5.6	16.2
55-64 years	5.0	3.4	1.6	1.8	8.1

Source: Labour Market Activity Survey

* Employment is measured by the number of hours worked.

Chart A

In 1988, workers aged 16 to 24 were the most likely to quit their jobs.



Source: Labour Market Activity Survey

Note: This chart represents the probability of workers of different ages quitting relative to that for workers aged 55 to 64. (See Estimating the probability of quitting.)

The effect of education on quit rates is more difficult to determine, since it affects a worker's job opportunities both within the firm and outside it. Simple observation shows no clear relationship between education and quit rates. However, the results of multivariate analysis indicate that women with at least some high school education have higher quit rates than women with elementary school only. They also suggest that men who completed university tend to quit more often than other men.

Dependent children might also be thought to have an impact on quit rates, especially those of workers aged 25 to 44. But a simple examination of quit rates by age of workers and number of children shows no clear relationship between the two. However, multivariate analysis shows that women's rates rise with the number of

children under 6 years of age while men's rates are not affected by the presence of those children.

"Controlling for ..."

Economic relationships are often complex. To explain the behaviour of one variable (the dependent variable), several other variables (known as explanatory variables) are used in an analytical model. However, in order to isolate the effect of one explanatory variable, it is necessary to "control for" the remaining variables. "Controlling for" a variable requires holding the value of that variable constant. For example, to assess the impact of the explanatory variable *age* on the dependent variable *quit rate*, the data were statistically adjusted so that the differences in the estimated effects of each variable in the model (except *age*) were nullified. The results show that, all other variables being equal, age did influence the likelihood of a worker giving up a job, but the effect was not as great as it first appeared in the simple point estimates.

Workers who quit are in low-paying jobs

Recent studies in the United States show that well-paid workers generally have lower quit rates, because better wages and other forms of compensation (pension plans or fringe benefits, for example) make alternative jobs less attractive.³ Thus, increases in the firm's wage bill should be offset by decreases in its expenditures on labour turnover. It therefore becomes important that the firm knows how much quit rates will fall, on average, given a specified rise in wages.

In 1988, workers earning less than \$5 per hour exhibited quit rates six times higher than those receiving \$20 or more per hour (Table 2). This is probably because low-paid workers are often young employees with few firm-specific skills.⁴ As a result,

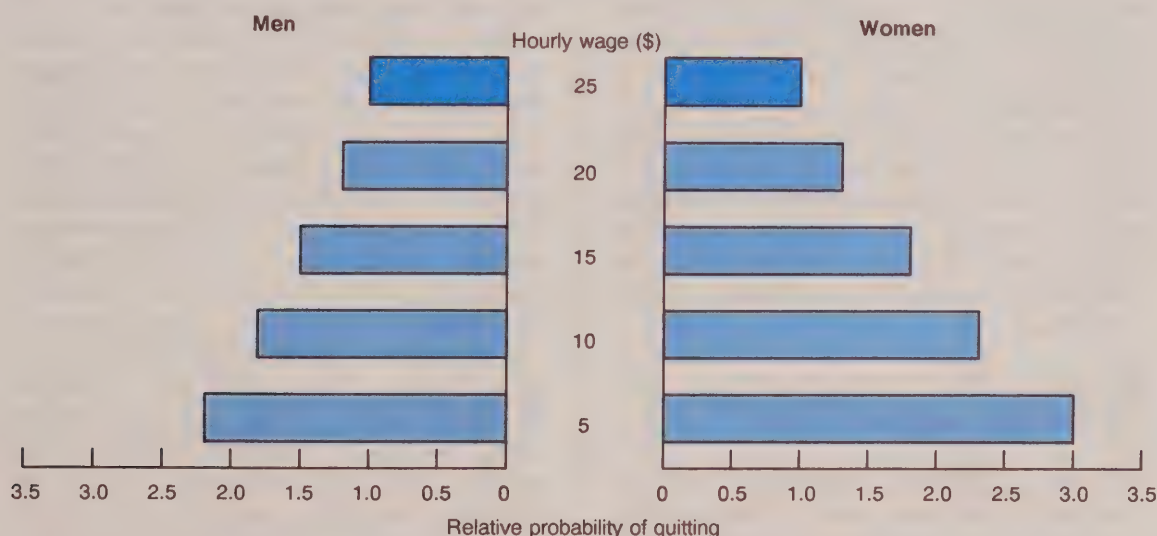
their current wages may be similar to those offered in alternative jobs, thus making the cost of changing jobs relatively small. The differences in quit rates for non-economic reasons may be partially due to the number of full-time students holding temporary jobs in low-wage occupations. However, when age and other factors are controlled for, quit rates for jobs paying \$5 per hour remain higher than those in jobs paying \$20 per hour – with men 1.8 times and women 2.3 times more likely to leave jobs (Chart B). Clearly, among workers with similar characteristics, wage rates are an extremely important determinant of quit behaviour.

Large firms have low quit rates

Perhaps because they can change jobs without changing employers, or because they are less likely to be laid off, workers in

Chart B

Low-wage jobs were associated with high quit rates in 1988.



Source: Labour Market Activity Survey

Note: This chart represents the probability of workers with different wage rates quitting relative to that for workers earning \$25 per hour. (See Estimating the probability of quitting.)

Table 2
Quit rates by wage rate and firm size, 1988

	Quit rates			Distribution of quits	Distribution of employment*
	Aggregate or total	Economic reasons	Non-economic reasons		
	%				
Total	18.0	12.6	5.4	100.0	100.0
Hourly wage rate					
Less than \$5.00	38.1	24.3	13.8	26.1	6.4
\$5.00 – \$6.99	28.2	19.1	9.1	24.8	10.9
\$7.00 – \$8.99	20.6	14.3	6.3	16.0	12.5
\$9.00 – \$11.99	14.4	10.8	3.6	16.3	22.2
\$12.00 – \$15.99	10.0	7.7	2.3	9.6	21.3
\$16.00 – \$19.99	6.4	5.5	0.9	3.9	14.6
\$20.00 or more	6.3	5.2	1.1	3.3	12.2
Firm size					
1-19 employees	24.0	17.1	7.0	32.8	19.9
20-99 employees	19.9	14.0	5.9	17.6	15.6
100-499 employees	14.8	10.8	4.0	9.9	13.0
500 employees or more	13.0	8.9	4.1	25.1	40.0
Size unknown	20.5	14.1	6.4	14.6	11.6

Source: Labour Market Activity Survey

* Employment is measured by the number of hours worked.

large firms have lower quit rates than those in small firms (Table 2). Firms with less than 20 employees exhibit quit rates almost twice as high as those of firms with 500 or more employees. However, when differences in other factors like wages, pension plan coverage and unionization are taken into account, most of this disparity vanishes, which appears to reflect the fact that large firms provide more of these advantages than small ones.⁵

Workers in consumer service industries quit most often

Workers in different industries⁶ give up their jobs for different reasons. Some industries rely heavily on part-time workers such as students, while others are seasonal; in these cases, employers undoubtedly expect large numbers of their workers to leave. (The

aggregate quit rate in part-time jobs is 27%, compared with 15% in full-time jobs.) On the other hand, some industries face unstable demand for their products or services, and have greater-than-average layoff rates. Some offer more generous compensation packages than others (Gera and Grenier, 1991), and some pay well but have poor working conditions. All of these factors, along with others, will affect an industry's quit rates.

Workers in consumer services are most likely to leave their jobs (Table 3). However, many of the consumer service industries employ people in temporary and part-time jobs, and tend to offer lower wages and less pension plan coverage. Their workforces also tend to be characterized by higher proportions of young workers and lower levels of unionization, and thus pose a greater likelihood of layoff (Picot, 1992).

When the influence of all factors is discounted, the quit rate in consumer services is about 1.2 times higher than that in public services. All these factors suggest that the quit rates observed mainly reflect the differences in the jobs and the types of workers employed by the various industries.

Quit rates also vary across occupations. Those characterized by unpleasant working conditions, rapid pace of work and stress may exhibit higher quit rates than

other types of jobs. Quit rates are highest in sales-related occupations and in services (Table 3), a fact that remains true even after controlling for the effects of variables such as age, wages, pension plan coverage and unionization. Compared with the quit rates of managers and professionals, chances that employees in sales-related occupations and in services will leave their jobs are 1.4 times greater for women and 1.7 times greater for men.

Table 3
Quit rates by industry and occupation, 1988

	Quit rates			Distribution of quits	Distribution of employment*
	Aggregate or total	Economic reasons	Non-economic reasons		
	%				
Total	18.0	12.6	5.4	100.0	100.0
Industry					
Forestry and mining	14.1	9.6	4.5	1.9	2.7
Construction	17.1	13.1	4.0	5.7	5.4
Manufacturing	14.3	10.3	4.0	14.1	21.2
Distributive services	12.7	9.6	3.1	8.0	13.5
Business services	19.0	14.0	4.9	10.9	10.9
Consumer services	28.1	19.4	8.6	43.8	21.0
Public services	11.6	7.4	4.2	15.5	25.3
Occupation					
Managerial and professional	10.2	8.3	1.9	6.3	14.5
Natural and social sciences	11.4	7.5	3.9	9.3	16.1
Clerical	18.4	12.6	5.8	19.5	17.4
Sales	27.4	20.7	6.7	13.8	7.7
Services	27.4	18.1	9.3	22.6	11.1
Primary and processing	14.9	10.2	4.6	12.9	17.8
Construction	16.7	12.5	4.1	5.7	5.8
Other	18.5	13.0	5.5	9.9	9.7

Source: Labour Market Activity Survey

* Employment is measured by the number of hours worked.

Table 4
Aggregate quit rates by selected
industries, 1988

	%
Forestry and mining	
Forestry	19.1
Mining*	8.6
Mining services	20.0
Manufacturing	
Clothing	20.4
Wood	13.9
Furniture and fixtures	22.0
Paper and allied	6.6
Printing and publishing	17.5
Primary metal	7.3
Metal fabricating	16.1
Machinery	12.9
Transportation equipment	11.2
Electrical products	13.6
Miscellaneous manufacturing	20.2
Construction	
General contractors	14.8
Special trades contractors	19.0
Distributive services	
Transportation	13.6
Communication	8.8
Utilities	6.6
Wholesale trade	15.7
Business services	
Finance	12.1
Insurance carriers	15.9
Insurance and real estate	20.6
Services to business	22.9
Consumer services	
Retail trade	24.2
Accommodation and food	36.6
Amusement and recreation	24.7
Personal services	26.9
Miscellaneous services	26.3
Public services	
Education	9.7
Health and welfare	13.9
Federal administration	9.9
Provincial administration	10.7
Local administration	11.9

Source: Labour Market Activity Survey

* Includes metal mines, non-metal mines, mineral fuels and quarries.

Men's and women's quit rates are very similar

Women's aggregate quit rate for all jobs is somewhat higher than men's – 20% compared with 16% (Table 5). When the data are broken down by work status, they show that women's quit rates exceed men's in full-time jobs but not in part-time jobs. However, women account for close to three-quarters of all part-time employment, and part-time quit rates are almost double those for full-time jobs. Women's overrepresentation in part-time work may explain part of the difference between male and female aggregate rates for all jobs.

In full-time jobs, women's aggregate quit rate exceeds men's by roughly 3 percentage points. Most of this difference is related to quits for non-economic reasons, which are greater for women mainly because of personal or family responsibilities.⁷ Moreover, women tend to work in lower paying jobs, where quit rates are higher. To assess how men's and women's quit rates compare, one has to consider jobs paying similar wages. Then it can be seen that women's aggregate quit rates are lower for all but the highest wage interval (Table 6). That is, they are lower in jobs paying less than \$16 per hour, which account for 84% of female employment and 64% of male employment. In the wage interval where women's quit rate surpasses men's, the difference does not exceed 1 percentage point. Thus, when full-time jobs paying comparable wages are considered, there appears to be little difference between men's and women's likelihood of giving up a job.⁸

Table 5
Quit rates by sex, 1988

	Quit rates			Distribution of quits	Distribution of employment*
	Aggregate or total	Economic reasons	Non-economic reasons		
	%				
All jobs	18.0	12.6	5.4	100.0	100.0
Women	19.9	13.2	6.6	51.9	41.1
Men	16.3	12.0	4.3	48.1	58.9
Full-time jobs	15.4	10.8	4.6	100.0	100.0
Women	17.1	11.2	5.9	45.5	38.3
Men	14.2	10.6	3.7	54.5	61.7
Part-time jobs	26.6	18.6	8.0	100.0	100.0
Women	25.6	17.4	8.2	64.3	72.7
Men	28.5	20.7	7.7	35.7	27.3

Source: Labour Market Activity Survey

* Employment is measured by the number of hours worked.

Table 6
Aggregate quit rates by sex and wage rates for full-time jobs, 1988

			Distribution of employment*	
			Women	Men
	Women	Men	Women	Men
	%			
Total	17.1	14.2	100.0	100.0
Hourly wage rate				
Less than \$5.00	34.3	38.7	7.9	3.6
\$5.00 – \$6.99	27.1	30.5	14.7	6.7
\$7.00 – \$8.99	19.1	20.0	16.5	9.5
\$9.00 – \$11.99	11.1	15.3	28.1	19.2
\$12.00 – \$15.99	8.7	9.1	17.2	25.3
\$16.00 or more	6.4	5.7	15.6	35.8

Source: Labour Market Activity Survey

* Employment is measured by the number of hours worked.

Conclusion

The employees most likely to quit are young and work in low-paying jobs. Although quit rates differ across industrial groups, most of the differences seem to reflect the fact that some industries pay better wages. Quit rates are also higher in small firms than in large firms; the explanation seems to be that large firms, on average, offer wages and other benefits that tend to make alternative employment unattractive. Finally, the commonly held view that women leave their jobs more often than men does not appear to be valid. In jobs paying approximately the same wage, men's and women's quit rates are very similar. □

Notes

¹ Historically, little information on quits has been available, but two new sources of data have recently been created. Using administrative data from the Unemployment Insurance program, Robertson (1987) presents evidence on quits in Canada for the period 1974 to 1984. Picot and Baldwin (1990b) use administrative data, as well as data from the 1986 Labour Market Activity Survey (LMAS) to document the volume of quits in the economy. They also study the effect of age, wages and firm size on quits. Work has been done in the United States by a number of researchers, including Viscusi (1980), Meitzen (1986) and Finnie and Voos (1991).

² Picot and Baldwin (1990a) show that quits decrease during recessions and increase during expansionary years (such as 1988). In 1988, the Canadian gross domestic product rose by 5% and employment increased by 3%.

³ Viscusi (1980) finds that wages have a negative and significant effect on both men's and women's quit rates. Meitzen (1986) finds that the top wage of the job slot a worker was hired in has a negative and significant effect on men's quit rates and a negative but not significant effect on women's quit rates.

⁴ Firm-specific skills are abilities that cannot be transferred from one firm to another. For instance, a manufacturing plant may have machinery specific to its own production process and part of the wage received by some workers may be related to their ability (acquired through on-the-job training) to operate this machinery.

⁵ Morissette (1991) shows that jobs in large firms generally pay higher wages, are better covered by pension plans and are more likely to be unionized. Large firms may also have lower quit rates because they have

fewer part-time jobs. The quit rates could reflect the influence of internal labour markets as well; that is, workers in large firms have more opportunities to change jobs without changing firms. To the extent that unions succeed in implementing more favourable working conditions for their members, union status could also capture the influence of better working conditions on quit rates.

⁶ The major industrial groups used in this paper (1980 Standard Industrial Classification) include the following divisions:

Forestry and mining: logging and forestry; mining, quarrying and oil wells

Construction

Manufacturing

Distributive services: transportation and storage; communication and other utilities; wholesale trade

Business services: finance and insurance; real estate operators and insurance agents; business services

Consumer services: retail trade; accommodation, food and beverage services; other services

Public services: education, health and welfare; religious organizations; federal, provincial and local administration; other government offices.

⁷ In full-time jobs, quit rates for personal and family responsibilities (including pregnancy) are 1.5% for female workers and 0.2% for male workers.

⁸ In part-time jobs, women's aggregate quit rates are found to be somewhat lower than men's aggregate quit rates for all wage intervals considered in Table 6.

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Appendix

Estimating the probability of quitting

The probability of quitting can be estimated by running a logistic regression (Maddala, 1983). The dependent variable Y_i is a dichotomous variable that takes the following values:

$Y_i = 1$ if worker i quits
 $= 0$ otherwise

The Y_i variable depends on a set of explanatory variables. In this study, the probability of quitting is estimated using the following set of explanatory variables:

- 1) Age:
 - 16-24 years
 - 25-34 years
 - 35-44 years
 - 45-54 years
 - 55-64 years
- 2) Education:
 - Elementary school only
 - Some high school
 - Completed high school only or some postsecondary
 - Certificate or diploma
 - University degree
- 3) Number of children aged 0 to 5
- 4) Number of children aged 6 to 15
- 5) Number of children aged 16 to 24
- 6) Marital status:
 - Married
 - Not married
- 7) Hourly wage rate
- 8) Pension plan coverage:
 - Job is covered
 - Job is not covered
- 9) Union status:
 - Job is unionized
 - Job is not unionized
- 10) Industry:
 - Forestry and mining
 - Construction
 - Manufacturing
 - Distributive services
 - Business services
 - Consumer services
 - Public services
- 11) Occupation:
 - Managerial and professional
 - Natural and social sciences
 - Clerical

Sales
 Services
 Primary and processing
 Construction
 Other

- 12) Firm size:
 - 1-19 employees
 - 20-99 employees
 - 100-499 employees
 - 500 employees or more
 - Size unknown
- 13) Regions:
 - Maritimes
 - Quebec
 - Ontario
 - Manitoba and Saskatchewan
 - Alberta and British Columbia
- 14) Regional unemployment rates:
 - One unemployment rate for each of the five regions defined above.
- 15) Job status:
 - Part-time
 - Full-time
- 16) Student status:
 - Full-time student in 1988
 - Not full-time student in 1988

The relative probability of quitting simply measures the likelihood that workers in one category will quit compared with that of workers in the reference category. For example, female workers making \$5 per hour are three times more likely to quit their jobs than those making \$25 (Chart B).

Because men and women are believed to exhibit different quit behaviour, it was decided to determine whether it is statistically appropriate to estimate separate models for workers of each sex. A likelihood ratio test was conducted under the null hypothesis that the coefficients of the male and female models were equal to one another. The null hypothesis was rejected at the 5% level. Therefore, two logistic regressions, based on the set of explanatory variables defined above, were run separately for male and female workers. The results presented in the charts are based on these two regressions. Similarly, whenever differences in certain variables have been controlled for, the results presented are derived from these two logistic regressions. The results of these logistic regressions are available from the authors on request.

An alternative approach is to use proportional hazard models to estimate the probability of quitting conditional on job tenure. This will be done in future work.

Workers on the move: Permanent layoffs

Garnett Picot

In 1982, during the depth of the worst recession since the Second World War, the gross domestic product (GDP) fell by 3.2%, overall employment declined by 3.5% and unemployment rose to 11% for the year. And, during this year of poor economic performance, 1.2 million workers were laid off permanently – meaning they did not return to their firms. In 1988, Canada was near the peak of the business cycle and had yet to face the effects of the 1990-91 recession. GDP expanded by 4.7%, employment increased by 3.2% and the unemployment rate fell to 7.8% and kept on falling as economic expansion continued. And yet, during this year of economic growth, fully 1 million workers were laid off permanently. At 7.1%, the permanent layoff rate for 1988 was significant compared with the decade high of 8.7% observed in 1982.

Permanent layoffs on such a scale are a major characteristic of the Canadian economy, in good years and bad.¹ They are an indication of the considerable "churning" that occurs continuously in the labour market as jobs lost in some firms are counterbalanced by jobs gained in new or expanding firms. In a year like 1988, the employment gains in new or expanding firms – at 14% of total employment in that

year – more than compensate for the employment losses in disappearing or declining firms² (at 11% of total employment). The result was a net employment gain of 3% in 1988 (see *Definitions*). This *net* gain, which is usually the focus of analyses of employment change, masks the considerable churning referred to earlier. In a year like 1982, there are fewer firms with expanding employment to offset the employment declines witnessed in many firms. The result that year was a net employment decline,³ a 50% drop in hirings, and more unemployment associated with permanent layoffs. Nonetheless, permanent layoffs are high in both recessionary and non-recessionary years.

The purpose of this paper is to identify the characteristics of workers affected by permanent layoffs and the types of industries and firms in which they work. Therefore, layoffs are deemed permanent when workers do not return to their firms during the 12 months following the layoffs. The analysis is based on 1988 data from the Labour Market Activity Survey, supplemented by results from the Longitudinal Employment Analysis Program for 1988 and prior years (See *Appendix*). To emphasize the importance of permanent layoffs, even in the best years of the economic cycle, 1988 was chosen. The pattern of permanent layoffs observed is likely applicable to most years, except perhaps those in the depth of a recession.

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Definitions

Employment loss and gain

Employment loss is simply the change in employment in a company between two years, summed across all companies that experienced declining employment or that disappeared in the second year. The rate of employment loss is the employment loss divided by the total employment in the base year (in the economy, the industry, or other groups of interest). Employment gain is the change in employment between two years in all companies that experienced rising employment, or in companies that appeared in the second year. The rate of employment gain is the gain divided by the total employment in the base year.

Permanent layoffs

A permanent layoff occurs when a worker is laid off from a company and does not return within 12 months. The permanent layoff rate for a company is the total number of permanent layoffs in the year (1988) divided by the number of persons employed in the company at any time during the year (a cumulative employment count over the year), that is, the number of persons at risk of layoff during the year. This can be interpreted as the proportion of workers in the firm during the year who are permanently laid off. The permanent layoff rate for, say, an industry is simply the total number of permanent layoffs in the industry divided by the cumulative employment count in all companies in the industry. This represents an average layoff rate for all companies in the industry. Persons can be doubled-counted in the cumulative employment count, since an individual can work for more than one firm in a year.

Distributive, business, consumer and public services

The distributive services sector includes transportation and storage; communication and other utilities; and wholesale trade. Business services includes finance and insurance; real estate operators and insurance agents; and business services. Consumer services includes accommodation, food and beverage services; retail trade; and other services. Public services includes education, health and social services; religious organizations; federal, provincial and local administration; and other government services.

The logistic regression

The probability of permanent layoff in 1988 is calculated using logistic regression, where the independent variables are those listed in Table 3 plus union membership, region, part-time/full-time status and unemployment rate. The dependent variable is an indicator of a permanent layoff, which equals 1 if a permanent layoff is observed in a job in 1988, 0 otherwise. The sample includes all jobs observed in 1988, with or without a layoff. (An alternative approach is to estimate the probability of permanent layoff conditional on the time spent in the job using proportional hazard models. This will be done in future work.) In this logistic regression, the probability of permanent layoff for any particular variable (for example, different levels of age) is calculated at the mean value for all other variables. When a variable is discrete (such as education, which has five discrete levels), the weighted average is used, where the weights are the proportion of all workers in each level of the variable.

Permanent layoffs are highest in construction, and forestry and mining

Permanent layoffs vary considerably from industry to industry. In construction, 1 in 5 persons experienced a permanent layoff in 1988, in forestry and mining, 1 in 6, while in public utilities, the figure was only 1 in 75 (Table 1).

One reason for this dramatic contrast is the difference in the amount of churning going on among firms in these industries. For example, in construction, employment loss in declining or disappearing firms amounted to 17.3% of employment in the industry that year; in public utilities, it was only 1.6%. But then employment declines don't necessarily result from permanent layoffs. They can be handled by retirement

or voluntary quits (both known as attrition) as well as permanent layoffs. Thus, another reason for the difference in the permanent layoff rate is the way industries manage their workforce levels. In construction, where wages are relatively high and work is highly seasonal and cyclical, quit rates are low, resulting in employers downsizing through permanent layoffs rather than through attrition. In an industry such as real estate, quit rates are high, allowing much of the labour reallocation process to occur through attrition. As a result, the layoff rate in that industry was less than 4% in 1988, even though many firms had substantial employment declines.⁴ In public utilities, quit rates are low and there is relatively little employment loss in firms due to a reallocation of market share among firms or for other reasons. Permanent layoffs are, therefore, infrequent.

Table 1
Permanent layoffs by industry, 1988

	Permanent layoff rate	Distribution of permanent layoffs	Distribution of total employment*
	%		
All industries	7.1	100.0	100.0
Forestry and mining	15.5	5.4	2.7
Construction	21.5	18.2	5.3
Manufacturing	6.0	15.1	21.2
Transportation and storage	5.7	2.9	4.3
Communication	2.2	0.7	2.8
Other utilities	1.4	0.2	1.5
Wholesale trade	5.8	3.7	4.8
Finance	1.4	0.5	3.2
Insurance	4.6	0.8	1.4
Real estate operators and insurance agents	3.8	0.8	1.6
Business services	6.2	4.3	4.7
Retail trade	7.4	14.6	11.6
Consumer services**	8.9	17.4	9.4
Health and social services	2.8	3.4	8.6
Education	3.9	4.3	8.4
Government services	7.1	7.6	8.4

Source: Labour Market Activity Survey

* Employment is measured by the number of hours worked.

** Includes accommodation, food, beverage and other service industries.

During a recession, layoffs tend to increase more quickly in manufacturing than in other industries (Picot and Baldwin, 1990a/b). However, during an expansionary year, workers in manufacturing appear to be less likely to lose their jobs than other workers: in 1988, the permanent layoff rate was 6%, well below the overall average.

Permanent layoffs are concentrated in small firms

Firm size is an important factor in determining the probability of layoffs. When layoffs are discussed in the media, the image presented is often one of major cutbacks in large firms leading to worker displacement: a large manufacturer of farm equipment cuts back its workforce by letting hundreds of workers go, a major automobile manufacturer closes a number of plants displacing many workers, or one of the major airlines

permanently lays off a significant proportion of its workforce to cut costs. Such stories lead to an image of significant job loss in large firms. Reality, however, does not conform to this image, at least not during the 1980s.

During most years, it is from small- and medium-size firms that most of the permanent layoffs emanate. In 1988, small firms (those with less than 20 employees) accounted for 20% of employment but 41% of permanent layoffs. Firms with 500 or more employees had 40% of employment, and only 17% of permanent layoffs (Table 2). About 1 in 8 persons in small firms were laid off permanently in 1988, compared with only 1 in 29 in large firms. This is a tremendous difference that holds significant implications: for workers who may consider working in small firms, for the firms that would like to understand why there are such dramatic differences in layoff rates, and for economists wishing to better understand the labour reallocation process.

Table 2
Permanent layoffs by firm size and wage rate, 1988

	Permanent layoff rate	Distribution of permanent layoffs	Distribution of employment*
		%	
Total	7.1	100.0	100.0
Firm size			
1-19 employees	12.0	41.4	19.9
20-99 employees	7.6	17.0	15.6
100-499 employees	5.7	9.7	13.0
500 employees or more	3.4	16.6	40.0
Size unknown	8.4	15.2	11.6
Hourly wage rate			
Less than \$5.00	11.5	20.0	6.4
\$5.00 - \$6.99	9.5	21.2	10.9
\$7.00 - \$8.99	8.6	17.0	12.5
\$9.00 - \$11.99	6.0	17.3	22.2
\$12.00 - \$15.99	5.2	12.7	21.3
\$16.00 - \$19.99	4.5	6.9	14.6
\$20.00 or more	3.7	4.9	12.2

Source: Labour Market Activity Survey

* Employment is measured by the number of hours worked.

A number of explanations are possible. The first relates to the industrial distribution of large and small firms. If small firms were concentrated in industries with volatile employment patterns and high layoff rates, then naturally one would observe higher rates among small firms. This would primarily be a characteristic of the industry rather than of the size of the firm. But the firm size differential in layoff rates is observed in all major industries (Chart A). This is confirmed in the multivariate analysis reported in Table 3.

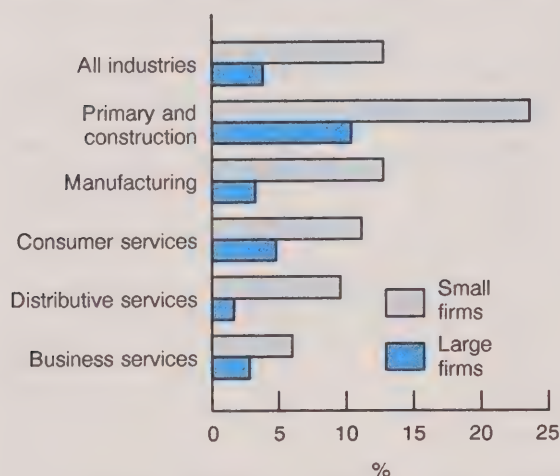
The second possible explanation involves differences in the characteristics of workers employed in small and large firms. Workers in large firms have, on average, a higher level of education, are members of a union and are older than their counterparts in small firms (Morissette, 1991). All of these characteristics are associated with lower permanent layoff rates. If one controls for these and similar characteristics using re-

gression analysis, then the rate differential decreases but does not disappear: the likelihood of being laid off in a small firm as opposed to a large firm falls from 3.5:1 to 2:1 (Tables 2 and 3).

A third possible explanation relates to the stability of small and large firms. The small firm sector is highly volatile: companies are much more likely to disappear and be replaced by others, obviously affecting layoffs. In 1988, among small firms employment fell 5.3% due to the disappearance of companies and an additional 11.6% due to workforce downsizing in declining (but continuing) firms. Thus, 16.9% of total employment in small firms was lost in declining or disappearing firms (Table 4). Among large firms the comparable figures were 0.9% (since few large companies disappear) and 4.7%. Therefore, only 5.6% of total large firm employment was lost in declining or disappearing companies. With a rate of employment loss three times higher

Chart A

In 1988, the permanent layoff rate was significantly higher in small firms than in large firms.*



Source: Labour Market Activity Survey

* Small firms: 1-19 employees, large firms: 500 or more.

than that of large firms, it is not surprising that small firms have four times the permanent layoff rate.

It should be noted that employment creation is also higher in small firms, leading to a disproportionate amount of hirings as well as permanent layoffs. This activity produces less stable employment patterns and shorter job tenure. In 1986, job tenure was on average approximately two and one-half times longer in large firms compared with small firms (Morissette, 1991).

The difference between the layoff rate in small and large firms persists over the course of the business cycle. During the 1980s, the likelihood of being permanently laid off from a large firm, even during a severe recession like that of 1981-82, does not approach the probability of being laid off from a small firm during the best of economic times⁵ (Chart B). Whether this pattern persisted during the 1990-91 recession remains to be seen. These results support the idea that for a particular worker

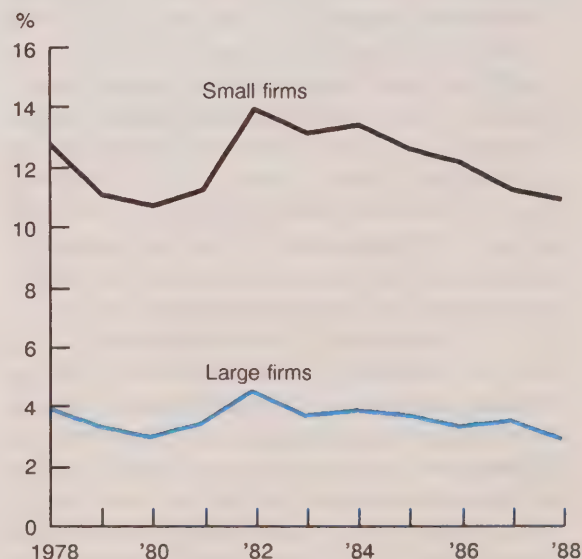
overall economic conditions are not the most important factor in the permanent layoff process: other factors such as the reallocation of market share among firms in a given industry or sector, the impact of structural change occurring in the economy and changes in productivity levels appear to be more significant. In particular, the reallocation of jobs among firms *within* an industry is found to be important. These factors lead to high levels of employment loss in a number of firms and large employment gains in others (Davis and Haltiwanger, 1991; Baldwin and Gorecki, 1990).

Low-wage workers have higher layoff rates

When a firm faces a downturn, it is the low-wage workers who experience the highest permanent layoff rates. High-wage jobs are generally filled by persons with higher

Chart B

The permanent layoff rate in small firms was higher throughout the business cycle of the 1980s.*



Source: Longitudinal Worker File

* Small firms: 1-19 employees, large firms: 500 or more.

Table 3
Relative probability of permanent layoff in 1988, as calculated from the logistic regression model

Category	Relative probability	Category	Relative probability
Age (probability of permanent layoff compared with that for 16 to 24 year-olds, controlling for the effects of the other variables listed)		Firm size (relative to 500 or more employees)	
16-24 years	1.0	1-19 employees	2.1
25-34 years	0.8	20-99 employees	1.6
35-44 years	0.7	100-499 employees	1.4
45-54 years	0.7	500 or more employees	1.0
55-64 years	0.8	Size unknown	1.7
Education (relative to university degree)		Hourly wage rate (relative to \$25 per hour)	
Elementary school only	1.2	\$ 5	1.7
Some high school	1.1 *	\$10	1.5
Completed high school only or some postsecondary	0.9 *	\$15	1.3
Certificate or diploma	1.0 *	\$20	1.1
University degree	1.0	\$25	1.0
Industry (relative to business services)		Occupation (relative to managerial and professional)	
Forestry and mining	2.3	Managerial and professional	1.0
Construction	2.6	Natural and social sciences	1.1 *
Manufacturing	1.0 *	Clerical	1.6
Distributive services**	0.9 *	Sales	1.3
Business services**	1.0	Services	1.3
Consumer services**	1.2	Primary, processing and fabricating	2.4
Public services**	1.2	Construction	2.7
		Other	1.7

Source: Labour Market Activity Survey

Note: The relative probability is simply the probability in a level compared with a reference level. The probability of permanent layoff for any particular variable (for example, different levels of age) is calculated at the mean value for all other variables. When another variable is discrete (such as education, which has five discrete levels), the weighted average is used, where the weight is the proportion of all workers in each level of the variable.

* Not significantly different from 1.0 at the 5% level.

** See Definitions.

education and skill levels and, perhaps, with more firm-specific training and knowledge. Firms want to keep turnover in these jobs low, since hiring and training costs are higher. Hence, permanent layoff rates among these jobs are lower: in 1988, they varied from around 10% in jobs paying from \$5.00 to \$6.99 an hour to about 4% in jobs paying \$20.00 or more, a difference of a factor of about 2.5:1 (Table 2).

Of course, high-wage jobs are associated with other characteristics that may explain the difference. They are more likely to be found in large firms and among older workers, both of which are associated with lower permanent layoff rates. After controlling for these and other characteristics, the difference in the layoff rates between high- and low-wage jobs declines to a factor of less than 2:1 (Table 3). While the

Table 4
Rate of employment loss and gain by size of firm, 1988

	Total employment loss rate	Rate of employment loss due to:		Total employment gain rate	Rate of employment gain due to:	
		Disap- pearance of companies	Companies with declining employment		Appearance of companies	Companies with expanding employment
Total*	10.8	2.8	8.0	13.9	2.8	11.1
1-19 employees	16.9	5.3	11.6	26.5	6.5	20.0
20-99 employees	12.5	3.0	9.5	16.6	3.6	13.1
100-499 employees	11.8	3.1	8.8	12.6	2.3	10.3
500 or more employees	5.6	0.9	4.7	5.3	0.3	5.0

Source: Longitudinal Employment Analysis Program

* Private commercial sector only for 1988-89. Excludes health, education and government services.

layoff rate is higher among low-wage jobs, this is to some extent a reflection of other characteristics associated with the jobs, such as firm size and the age, education and tenure of the incumbent.

The layoff rate is higher among younger workers

The layoff rate among 16 to 24 year-olds (10%) is about twice that of persons 25 and

over. Although only 17% of employment was accounted for by the younger age group, they registered 41% of all permanent layoffs in 1988. This is likely related to the formal and informal seniority provisions in many firms, and to the lower levels of investment made by firms – in terms of training and firm-specific knowledge – in younger workers.

Conclusion

In 1988, during a period of economic expansion, approximately 1 million workers were laid off permanently. This layoff activity is associated with the dynamic economic pressures continuously faced by many firms. Layoffs stem from the decline or failure of firms and the associated reallocation of market share to new or expanding firms, from structural shifts in product demand or from productivity gains and losses in some firms. Cyclical decline obviously played no role during 1988 and other research suggests that downturns in entire industries for structural (long-term) reasons, while important, may not be the dominant factor in this layoff process.⁶

Table 5
Permanent layoffs by age, 1988

	Permanent layoff rate	Distribution of permanent layoffs	Distribution of total employment*
		%	
Total	7.1	100.0	100.0
16-24 years	10.2	40.9	17.3
25-34 years	6.4	27.6	32.4
35-44 years	5.3	16.3	26.0
45-54 years	5.4	9.6	16.2
55-64 years	6.1	5.6	8.1

Source: Labour Market Activity Survey

* Employment is measured by the number of hours worked.

The resulting permanent layoffs were highly concentrated among particular groups in the economy. The forestry and mining, and construction industries experienced the highest permanent layoff rates. Concentration in small firms was quite pronounced, as they accounted for 41% of layoffs but only 20% of employment. Large firms played a relatively minor role in the permanent layoff process, accounting for only 17% of layoffs. As well, a dispropor-

tionately large share of permanent layoffs was found among younger workers.

How much unemployment is associated with these layoffs is another question. This is likely to vary significantly among age groups; for example, older workers have more difficulty locating new jobs. It is also likely to vary over the course of the business cycle, as both the frequency and duration of unemployment following a permanent layoff is likely to be higher during a recession. □

Notes

¹ Permanent layoffs are part of the high volume of labour turnover observed in virtually all years, as one in five workers leaves a firm due to a quit, layoff or other reason. While the 20% overall permanent separation rate varies little over the business cycle, what does change is the mix of quits and permanent layoffs. Quits and hirings fall in a recession and permanent layoffs increase some, but not dramatically (Picot and Baldwin, 1990a/b).

² Declining firms are those with an employment decline between two years. These firms are not necessarily "in decline," as productivity gains may have taken place.

³ Between 1981 and 1982, the employment losses in disappearing or declining firms amounted to 11% of total employment in 1981, the employment gains in new or expanding firms 8%, for a net employment change of approximately -3%.

⁴ Employment loss in declining or disappearing firms accounted for 15% of total employment in the real estate industry.

⁵ Of course, from an unemployment perspective a layoff in a recession is much more significant because of the very low hiring rate.

⁶ Recent work in both Canada and the United States suggests that overall trends in employment for the economy as a whole and structural change among industries (which causes one industry to expand while another is in decline) account for only a limited amount of the job loss observed in recent years. The bulk of the loss is explained by events taking place at the level of the firm. Davis and Haltiwanger (1991) found that in the United States variation in job loss in manufacturing industries was associated with the reallocation of jobs among firms *within* an industry, not with an industry or economy-wide downturn. Baldwin and Gorecki (1990), studying job loss and gain in the Canadian manufacturing sector, also concluded that most of the reallocation of jobs was related to intra-industry shifts among firms. This suggests, as well, that economic forces such as intra-industry competition affecting firms within an industry may be responsible for most permanent layoffs.

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Appendix

Data sources on hirings and separations

There are three data sources used in the articles dealing with labour turnover in this issue of *Perspectives*: the Labour Market Activity Survey, the Longitudinal Worker File and the Longitudinal Employment Analysis Program.

The Labour Market Activity Survey (LMAS)

This is an annual longitudinal survey of 40,000 households which was conducted in two panels: the first, covering 1986 and 1987 and the second, 1988 to 1990. This survey collects information on all jobs held by respondents during the reference year, including information on start and end dates, industry, occupation, absences, promotions, job search, wages, and reasons for absences and job terminations. The survey was discontinued following the 1990 reference year and will be replaced for the 1993 reference year by the Survey of Labour and Income Dynamics (SLID), a continuing longitudinal survey with an observation period of six years (according to current plans). This survey will cover the content of the previous survey and will include an income component and additional demographic information.

With the exception of the breakdown of jobs into permanent and temporary categories, which are derived from the 1986 survey, the estimates of hirings and separations for this article are from the 1988 survey. Currently, tabulations of hirings and separations are available only for the 1988 survey. Because of the complexities of the questionnaire and the data file, users attempting to reproduce the estimates appearing in the article from the public use microdata file may experience difficulty doing so. A Statistical Analysis System (SAS) algorithm which identifies hirings and separations and classifies the latter according to permanent/temporary and quits/layoffs/other is available on request.

This is undoubtedly the richest source of data on hirings and separations, because of the wealth of additional variables available. In addition to the data on wages mentioned above, which no other source can provide, it includes information on unionization, firm size, hours of work and Unemployment Insurance reciprocity.

A temporary separation (LMAS definition) is one in which the employee returns to the former employer within one year following the separation. Thus, a seasonal layoff that is followed by a return to a former employer after the end of the off-season is considered a temporary separation. To maintain conceptual consistency, such returns to former employers are not considered hirings. The assumption here is that a return to a former employer after a short absence (less than a year) implies a tie between the employee and the employer, although in practice there may not have been any guarantee of re-employment.

Because recurring employment with the same employer has been interpreted as reflecting a continuing job, a job is considered to be temporary (1986 LMAS) only if the job has been terminated, that is, the employee does not subsequently go back to it, or it is a student summer job, or a job identified by the respondent as seasonal or temporary upon termination and having lasted less than one year.

This means that a seasonal job is not considered a temporary job if the employee returns to it in the following year. This is not entirely satisfying because one would normally consider seasonal jobs as "temporary," regardless of any return. However, the pattern of recurring employment with the same employer is apparently such a common one in Canada that it does not seem entirely appropriate to consider each seasonal return a new hiring. Subsequent analysis may need to examine the relationship between the length of the employment spell and the nature of the employer/employee link. (For special requests, contact Richard Veevers at (613) 951-4617.)

Longitudinal Worker File

(Combines Record of Employment and Revenue Canada-Taxation data)

By law, a Record of Employment form must be issued by an employer to every employee working in insurable employment who has an interruption in earnings. Generally, most people working under a contract of service – that is, in an employer-employee relationship – work in insurable employment. Excluded from insurable employment are employees who are aged 65 or over, those who are dependents or the spouse of the employer, those who earn less than the minimum weekly insurable earnings (\$113 in 1988) or who are employed less than 15 hours per week. The information on the Record of Employment form is used to decide if a person qualifies for Unemployment Insurance benefits, what the eligible rate should be and for how long the person may be eligible for benefits. The Record of Employment indicates, among other things, the first day of employment, the last day of employment, the reason for the interruption or separation and the insurable earnings.

The administrative file of Records of Employment can thus be used to generate counts of separations by reason. In addition, Revenue Canada files provide information on all jobs held during the year. From these and a longitudinal file on businesses, the Longitudinal Worker File has been created which includes information on the number and type of separations in a year, annual income, personal characteristics such as age and sex, and certain characteristics of the firm in which the worker is employed, such as size and industry.

Appendix – concluded

The temporary/permanent nature of a separation can be determined on this file by observing whether an employee returns to the same employer by the end of the year following the separation.

Longitudinal Employment Analysis Program (LEAP)

The third data source is a longitudinal file of companies (legal entities) referred to as LEAP. This data source, maintained by the Business and Labour Market

Analysis Group of Statistics Canada, employs Revenue Canada and Business Register data. It is a microdata file of all firms in Canada with an associated estimate of employment in the firm. It covers the 1978-88 period, and has been used to study change in employment at the company level. Estimates of employment loss and gain at the company level are derived from this data source. For further detail see *Developing a longitudinal database on businesses in the Canadian economy*, (Catalogue 18-501).

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Perspectives on labour and income

The quarterly for labour market information

A note on Canadian unemployment since 1921

Dave Gower

The recessions of the early 1980s and early 1990s resulted in high unemployment rates. Some people have compared these rates with those of the Great Depression of the 1930s. This note examines unemployment rate data for recent years and earlier in this century.

Since 1945, Canadian unemployment data have been generated by the Labour Force Survey (LFS). Before that, however, no regular measure was taken. Using various methods, a variety of labour statistics have been estimated back to 1921.

The calculation procedures used for the pre-war data differ considerably from those used for the more recent data (see *The data: definitions and sources*). Therefore, the earlier numbers should be considered only an approximation of what would have resulted if the LFS had been conducted before the Second World War. It is encouraging to note, however, that these early unemployment rate data generally follow trends in other economic indicators.

Any comparison of unemployment rates over such a long period of time must be tempered by the fact that the social impact of unemployment during the 1930s was undoubtedly different from today. The labour force participation of married women

was much lower then; therefore, unemployment was more likely to deprive a family of its sole source of employment income. To make matters worse for such families, today's network of social programs was largely absent.

The results

The event often called the Great Depression actually consisted of two cycles: the severe slump of the early 1930s and a lesser downturn in the late 1930s, with some recovery in between. The national unemployment rate in June 1933, at 19.3%, was the worst over the entire period since 1921. It was also about 8 percentage points higher than the highest post-World War II June rate, 11.5%, recorded 50 years later in 1983. The 1983 estimate was about the same as that of 1938 and 1939. In June 1992, the unemployment rate was slightly lower, at 10.8%. (Because of the procedures used to obtain pre-war unemployment data, all observations in this note refer to June.)

The lowest unemployment rates earlier in the century were much lower than anything experienced since the mid-1970s. From 1927 to 1929, and again during and after the Second World War, unemployment rates dropped to 3% or less, whereas the lowest June unemployment rates in the past 15 years never dropped much below 7%.

It might be argued that the low unemployment rates of the early 1940s and,

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Chart A

Unemployment rates have varied widely since 1921.*

Sources: Pre-1946: extrapolated census data; 1946-1992: Labour Force Survey

* All provinces excluding Newfoundland.

The data: definitions and sources

Assessing the comparability between the pre-1946 unemployment data and those produced after the Second World War is difficult. The Labour Force Survey (LFS) obtains unemployment estimates by means of a household survey. The pre-war data were extrapolations of 1921, 1931 and 1941 Census results using reports obtained from labour unions on the percentage of their members out of work. A report containing these data along with the calculation procedures was initially published in 1942 by the Dominion Bureau of Statistics (DBS), as Statistics Canada was then known (DBS, 1942, pp. 215-234).

Canadian census data are collected early in June; as a result, the labour force statistics up to 1945 were calculated for that month each year. For historical continuity in this note, therefore, June has been used for recent data as well.¹ Post-war experience suggests that June gives a long-run unemployment trend similar to, but slightly below, annual average numbers.

Employment data were derived in a similar manner, by extrapolating census values using results from a survey of large employers.

There are a number of ways in which the meaning of the pre-war labour force data can differ from more modern statistics. The census labour force definitions were similar to, but not quite the same as, modern LFS definitions.² In addition, the extrapolation techniques necessarily involved a

number of assumptions that are difficult to evaluate using the material available today. In spite of these problems, the DBS numbers remain the best available measure of Canada's labour force situation before 1946.

It should be noted that to improve data comparability, Newfoundland has been subtracted from the Canada figures, since this province joined Confederation in 1949.

During the period from 1946 to 1952, LFS surveys were taken four times a year, instead of monthly. Fortunately, one of those survey dates was June.

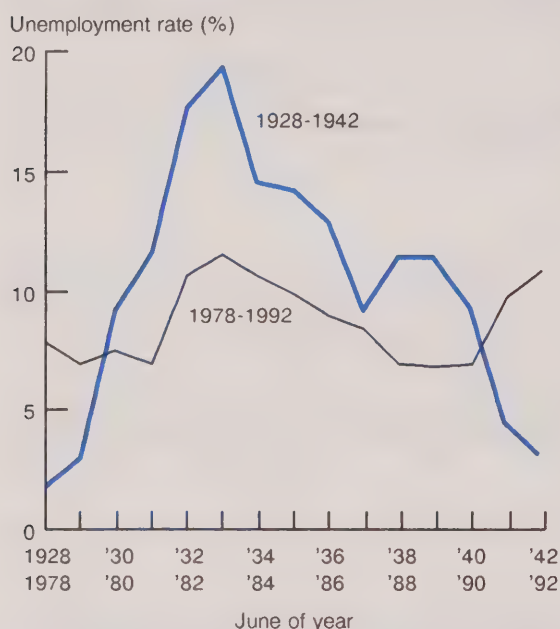
Starting in 1966, the LFS minimum age for labour force participation was raised from 14 to 15. (The LFS age limit was actually raised in 1975; the data were adjusted back to 1966 to provide a consistent time series.) This had little effect on the unemployment rate because of the small numbers involved.

Because LFS figures are periodically revised to correspond to updated population bases, there can be minor differences in values contained in the various sources mentioned in the references. The data used in this note reflect the final revisions.

Data sources for this note are as follows: the pre-1946 data were taken from the *Historical statistics of Canada* (Statistics Canada, 1983); the LFS data from 1946 to 1956 correspond to those in Reference paper no. 58 (DBS, 1958); and the data from 1957 to 1965 were directly tabulated from LFS files. Subsequent data were also directly tabulated from LFS files and correspond to values in *Historical labour force statistics, 1991* (Statistics Canada, 1992).

Chart B

Unemployment rates were more volatile 50 years ago.*



Sources: Pre-1946: extrapolated census data;
1946-1992: Labour Force Survey

* All provinces excluding Newfoundland.

to a lesser extent, the early 1950s (Korean War) were unnatural events caused by wartime mobilization, and as a result are not comparable to recent experience. However, rates were also very low in the late 1920s and late 1940s, when no such artificial stimulus existed.

Thus, fluctuations in unemployment were much greater a half-century ago than they are now. A large body of economic literature has been devoted to explaining this flattening. While the results have varied from study to study, many researchers have concluded that changes in public policy and the structure of the Canadian labour market have moderated swings in unemployment over economic cycles (Burns, pp. 45-51, in Gera, 1991). □

Notes

¹ Before 1946, the data relate to June 1. Starting that year, the numbers are based on the Labour Force Survey reference week, usually the week containing the 15th day of the month.

² For a discussion of the differences between LFS and census labour concepts and definitions up to 1961, see Denton and Ostry (1967), pp. 1-14.

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Back injuries at work, 1982-1990

Cynthia Hagggar-Guénette and Joanne Proulx

Work injuries not only cause physical, financial and emotional hardships for workers and their families, but they also reduce employee productivity and morale. Each year, Workers' Compensation Boards in Canada accept more than half a million time-loss claims due to work accidents. More than one-quarter of these claims are for back injuries.¹

Work-related back injuries may be caused, for example, by a single instance of overexertion or develop as a result of repeated motion over time. All workers, however, are not equally likely to sustain back injuries, as some occupations and industries expose men and women to greater risks than do others.

This article traces the pattern of growth in the number of back-injury claims accepted by Workers' Compensation Boards during the last decade. It also outlines the characteristics of workers filing those claims, and describes the nature of their injuries and the circumstances in which they occurred.²

Most common injury

Throughout the past decade, back injuries accounted for more Workers' Compensation

claims than injuries to any other body part. In 1990, for example, Workers' Compensation Boards across Canada paid lost time benefits to workers for 164,000 back injuries.³ The next most common claims were for hand, wrist or finger injuries (122,000). The number of other time-loss claims ranged from 56,000 for foot, ankle or toe injuries down to 25,000 for injuries to the chest, hips or abdomen (Chart A).

Chart A

Back injuries were the most frequently compensated claims in 1990.



Source: National Work Injuries Statistics Program

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Time-loss injury claims

A time-loss work injury or illness is one that is serious enough for an individual to take time off work to recover. Time-loss injuries and illnesses may result from accidents, the environment, or specific working conditions. Employees injured at work must apply to provincial Workers' Compensation Boards to receive compensation for lost wages. The level of compensation differs by province.

The National Work Injuries Statistics Program (NWISP) collects data from administrative records on time-loss claims accepted by all Workers' Compensation Boards in Canada, except the Yukon. NWISP publishes the age and sex of an injured worker, the occupation and industry, the nature and source of the injury, the body part injured, and the accident that resulted in the injury. Data are not collected on the benefits paid to injured workers, and claims for medical expenses that did not involve time off work are excluded.

During the 1980s, claims for back injuries rose faster than claims for other injuries. Back-injury claims grew 33% between 1982 and 1990, while other injury claims increased only 18%. Thus, back injuries constituted a gradually rising share of compensated work injuries: 28% in 1990, compared with 26% in 1982. (Note: The drop in claims for all types of injuries between 1989 and 1990 (Table 1) may be partly attributed to plant closures and layoffs stemming from the economic recession.)⁴

Men make most back-injury claims

Far more men than women suffer work-related back injuries (121,000 compared with 42,000 in 1990). This undoubtedly reflects the concentration of men in industries and occupations where accidents tend to occur. In 1990, men accounted for 74% of all time-loss back-injury claims, although they comprised 54% of paid workers⁵ (Chart B).

However, among people filing claims, women were more likely than men to have injured their backs. Nearly one-third of women's time-loss claims in 1990 were for back injuries, compared with just over one-quarter of men's claims.

As well, women's share of back-injury claims increased throughout the 1980s. By 1990, 26% of back-injury claims were made by women, compared with just 18% in 1982 (Table 1). Much of this rise mirrors the increase in women's labour force participation, as well as expansion of Workers' Compensation coverage to the service sector,⁶ where many women are employed and where most of their claims originate.

Table 1
Time-loss claims by sex, 1982 to 1990*

	Work injuries			Back injuries		
	Total**	Men	Women	Total**	Men	Women
		'000			'000	
1982	480	381	79	123	95	22
1983	472	369	84	124	94	25
1984	510	410	98	137	107	30
1985	556	447	109	149	116	33
1986	587	465	121	158	121	36
1987	603	474	128	164	124	39
1988	618	482	134	168	127	41
1989	621	478	137	169	127	42
1990	587	442	136	164	121	42

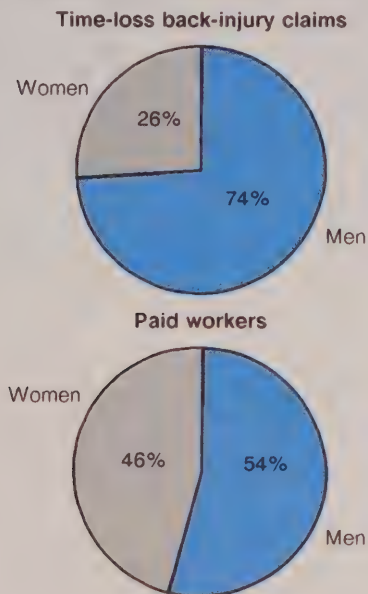
Source: National Work Injuries Statistics Program

* The Yukon is excluded from work injuries data.

** Includes claims where sex was not reported.

Chart B

In 1990, men accounted for three-quarters of back injuries, but just over half of paid workers.



Sources: National Work Injuries Statistics Program and Labour Force Survey

Time-loss back-injury rates

Ideally, time-loss back-injury rates should be calculated to allow direct comparisons of populations of different sizes. This is especially important in view of the marked variations in the distribution of men and women among occupations and industries. (For example, although few women are employed in blue-collar occupations, they may sustain back injuries at the same rate as their male co-workers.) Calculation of time-loss injury rates, however, should be based on the number of workers covered by Workers' Compensation Boards, information that is not available.

To give some indication of the prevalence of back injuries among men and women in specific occupations and industries, estimates of paid workers obtained from the Labour Force Survey (LFS) are shown beside the back-injury data. Nonetheless, the population covered by the LFS may not accurately reflect the population covered by Workers' Compensation. In fact, some provincial Workers' Compensation Acts exclude occupations and industries that are included in other provinces' legislation. Consequently, the relatively small number of claims reported in some industries may be attributable to low coverage by Workers' Compensation Boards.

Different age patterns for men and women

Overall, back-injury claims tend to be made by younger workers. But this general trend is a reflection of men's back injuries, which constitute three-quarters of all claims. In fact, the ages at which male and female workers are likely to experience back injuries differ.

The majority of male workers who made back-injury claims in 1990 were under age 35. That year, 37% of men with back-injury claims were aged 25 to 34, surpassing the proportion of employed men in this age range (29%). Another 17% were aged 15 to 24, roughly the same as their share of paid workers (18%). On the other hand, fewer than half (46%) of men making back-injury claims were aged 35 and over, although 53% of employed men were in this age group (Table 2).

Women making back-injury claims tend to be older. Fully 54% of women with back injuries were aged 35 and over, whereas this age group represented 50% of female workers. Just under a third (31%) of women with back-injury claims were aged 25 to 34, closely matching the proportion of female workers in this age group (30%). The remaining 15% of women making claims were aged 15 to 24, even though this age group represented 20% of female workers.

Overexertion is main cause

In 1990, almost all back injuries were sprains or strains (83%). Another 5% were impact injuries, while a variety of other conditions, such as inflammations and multiple injuries, made up the remaining 12%.

Overexertion was the major cause of back injuries (Chart C). Nearly two-thirds (63%) of all job-related back injuries sustained by both men and women in 1990 were due to overexertion, usually while

Table 2
Back-injury time-loss claims and paid workers by selected characteristics, 1990

	Back injuries			Paid workers		
	Total	Men	Women	Total	Men	Women
All ages ('000)	162*	120	42	11,353	6,179	5,174
(%)	100	100	100	100	100	100
15-24 years	16	17	15	19	18	20
25-34 years	35	37	31	29	29	30
35-44 years	27	26	29	26	26	27
45-54 years	15	14	18	16	17	16
55-64 years	7	7	7	8	9	7
65 and over	--	--	--	1	1	1
All industries ('000)	163**	120	42	11,353	6,179	5,174
(%)	100	100	100	100	100	100
Agriculture, fishing, forestry, and mining	3	4	1	4	5	2
Manufacturing	29	33	16	17	23	11
Construction	9	12	1	6	9	1
Transportation, communication and other utilities	9	11	3	8	11	5
Trade	17	18	15	18	18	18
Finance, insurance and real estate	1	1	1	6	4	9
Education	2	2	4	7	5	9
Health and social services	13	4	39	10	3	17
Accommodation, food and beverage services	4	2	9	6	5	8
Business services and other services	5	5	5	11	9	12
Government services	6	7	6	7	8	7
All occupations ('000)	142†	104	38	11,353	6,179	5,174
(%)	100	100	100	100	100	100
Managerial and administrative	1	1	1	14	15	12
Natural science	1	1	--	4	6	2
Social science	1	--	2	2	1	3
Religion	--	--	--	--	--	--
Teaching	1	--	3	5	3	6
Medicine and health	11	3	33	5	2	10
Artistic	--	--	--	2	2	2
Clerical	7	6	11	18	7	32
Sales	5	4	7	9	9	9
Service	13	9	22	13	11	15
Farming, fishing, forestry, and mining	3	4	1	3	4	1
Processing	8	9	5	3	5	1
Machining	6	8	1	2	3	--
Fabricating, assembling and repairing	13	16	6	8	12	4
Construction trades	11	15	1	5	10	--
Transport equipment operating	9	12	1	4	6	1
Material handling	10	11	5	2	3	1
Other crafts	1	1	1	1	2	1

Sources: National Work Injuries Statistics Program and Labour Force Survey

* Excludes 2,072 claims where age was not reported.

** Excludes 1,286 claims where industry was not reported.

† Excludes 21,655 claims where occupation was not reported.



PERSPECTIVES

ON LABOUR AND INCOME

Supplement

Catalogue 75-001E

Autumn 1992

The labour market: Mid-year review

H I G H L I G H T S

- Overall employment levels dropped sharply by 141,000 in the first four months of 1992. However, in May and June, the trend was reversed and employment grew in both months.
- The job market has been particularly bleak for young people during the first half of this year. In June 1992, the employment/population ratio for youths was down 8 percentage points from the pre-recession June 1989 level. For students planning to return to school in the fall, the decline was even larger.
- In mid-1992, the unemployment rate was still on the increase, fuelled by a surge in the labour force participation rate. In June 1992, it climbed to 11.6%, its highest point since September 1984.
- The average duration of unemployment increased substantially during the recent recession, rising from an average of 18 and 20 weeks in the second quarters of 1990 and 1991 to over 23 weeks in the second quarter of 1992.
- With an employment drop of 5% between March 1990 and December 1991, Ontario was the province most seriously affected by the recession over that period. However, during the first half of 1992, the picture changed considerably, with relative declines in Newfoundland, Nova Scotia, Manitoba and Saskatchewan considerably exceeding that of Ontario.
- The first half of 1992 saw a large increase in the number of persons who worked part time because this was the only kind of employment they could find. In June 1992, some 730,000 persons were in this situation, representing more than one-third of all part-time workers.
- In May 1992, consumer prices recorded the lowest year-over-year increase in over 20 years (1.3%), while the corresponding rise in average weekly earnings was 3.5%.

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The labour market: Mid-year review

Bruce Petrie

In mid-1992, Canadian labour market conditions remained strongly influenced by the recession, and no clear trends were evident. Indications of improvement could be seen in employment increases that occurred in May and June, after six months of steady decline. The latest improvement in employment, however, was accompanied by large growth in the labour force. The result was that the unemployment rate continued to rise, reaching 11.6% in June, its highest level since September 1984.

Employment down ... but turning up?

Overall employment levels dropped sharply (-141,000) in the first four months of 1992. However, in May and June, the trend was reversed, as employment gains were recorded in both months. In May, the increase was limited to part-time employment (35,000), while full-time employment showed little change. In June, full-time employment rose significantly (78,000) for the first time since September 1991, but this was partially offset by a 48,000 decline in part-time employment.

Although the upturn in employment was relatively modest, it was accompanied

This article is based on information available as of July 10th, 1992. Unless otherwise stated, all monthly data have been seasonally adjusted to provide a better picture of underlying trends. Seasonal movements are those caused by regular annual events such as climate, holidays, vacation periods, and cycles related to crops and production. Seasonally adjusted series still contain irregular and longer-term cyclical fluctuations.

by a number of other economic indicators that signalled a strengthening of economic conditions which could stimulate job creation. Continued growth in exports and imports, increases in manufacturing shipments and new orders, slight consecutive increases in Statistics Canada's leading economic indicator (from January to April 1992), growth in real Gross Domestic Product in the first four months of 1992, as well as some reported improvements in the U.S. economy, provided signs – albeit still weak – of future increases in the demand for labour. As well, there were some encouraging signs emanating from the Help-wanted Index. This index, which serves as an indicator of the demand for labour,¹ had recorded a steep decline during the first quarter of 1992, but stabilized during the second quarter.

Declines in both goods and services sectors

Employment dropped in both the goods- and service-producing sectors of the economy during the first quarter of 1992. In the

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second quarter, the goods sector recorded some growth, while employment in the service sector continued to decline.

Among the goods-producing industries, where employment had dropped by more than 9% from the onset of the recession in March 1990 to the end of 1991 (and by almost 12% in manufacturing), significant declines continued in the first quarter of 1992. The second quarter, however, saw a reversal of this trend and, indeed, a small upturn in total employment, led by the manufacturing sector. While the gains in manufacturing were modest, the increases in April and May marked the first time since the start of 1990 that two consecutive monthly increases were recorded. Employment in manufacturing remained unchanged in June. By May 1992, employment in the construction industry had dropped a shade below the level at the end of 1991. The expected growth in residential construction, resulting from low mortgage rates, the use of RRSPs for down-payments and the halving of Canada Mortgage and Housing Corporation (CMHC) minimum down-payment requirements (from 10% to 5%) had not yet materialized, reflecting persistent high unemployment rates and continuing low consumer confidence. June, however, saw a sizeable increase in construction employment, the largest monthly increase in over a decade. Little change was observed in other industries within the goods-producing sector during the first six months of 1992.

In the service sector, where employment levels have fluctuated within a relatively narrow range since early 1990, reductions in the first quarter of 1992 were concentrated in finance, insurance and real estate, and in community, business and personal services. In the second quarter, declines were concentrated in public administration and in transportation, communication and other utilities. In trade, where employment had fallen during 1991,

there was no significant change in employment levels from the beginning of 1992 to mid-year.

More part-time, less full-time employment

In spite of the large June increase, full-time employment declined marginally by 1% (-98,000) during the first half of 1992, and part-time employment grew by a similar percentage (18,000). Almost all of the losses in full-time employment were borne by men. Young persons accounted for a disproportionately large share of the loss in full-time employment.

The growth in part-time employment over the past two years, to over 2 million in mid-1992, raised its share of total employment to 16.4%, up from 15.2% in June 1990.

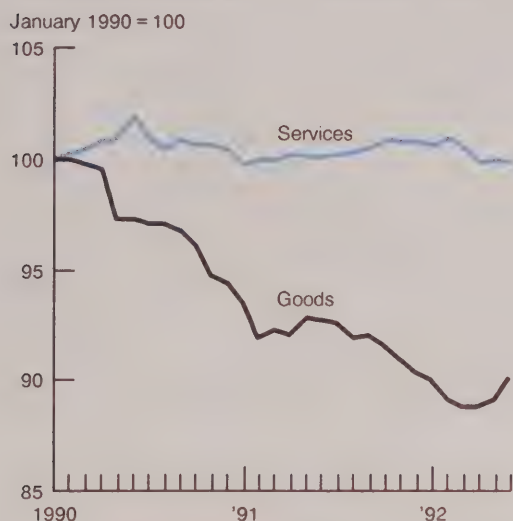
Young people hardest hit

The decline in employment during the first six months of 1992 was particularly pronounced among young people. For persons aged 15 to 24, employment fell by some 88,000, following a period of relative stability during the last half of 1991. Indeed, young people did not share in the overall employment growth in May and June 1992. For them the decline continued.

The recent employment declines brought the employment/population ratio for young people to 54% at mid-year 1992, down nearly 8 percentage points from its pre-recession level. This reduction is similar to that which occurred during the 1981-82 recession. Their rate of unemployment, on the other hand, which reached 19.4% in June of 1992, has not risen as much as it did in the earlier recession, when it peaked at over 21%. The lower rates in the most recent recession reflect the fact that more young people have left, or have not joined, the labour force, choosing instead to return to, or remain in, school or to pursue other training.²

Chart A

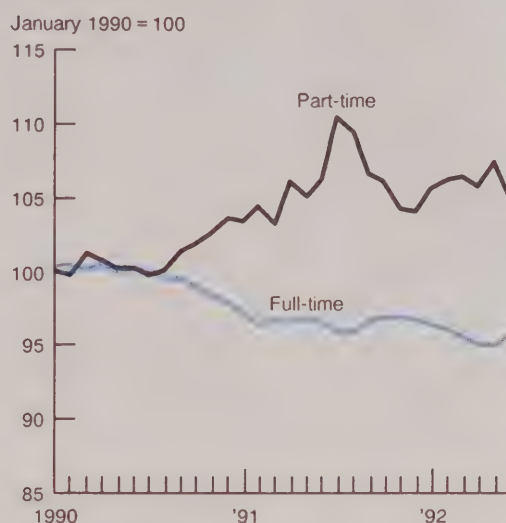
The second quarter of 1992 saw some employment growth in the goods sector.



Source: Labour Force Survey

Chart B

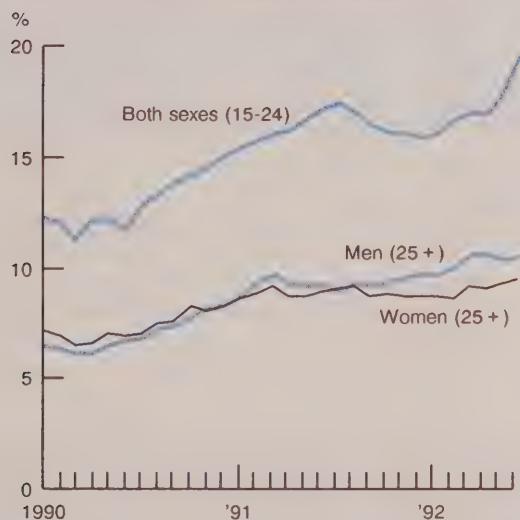
Full-time employment recorded its first growth this year in June.



Source: Labour Force Survey

Chart C

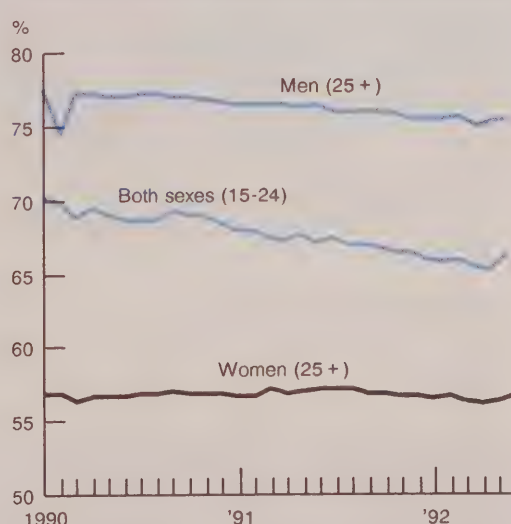
The unemployment rate rose fastest for youths this year.



Source: Labour Force Survey

Chart D

Up until June, the participation rate continued to decline among youths.



Source: Labour Force Survey

Student jobs scarce

The job market for students planning to return to school in the fall of 1992 was bleak in mid-1992. Their rate of unemployment was 19.4% (unadjusted) in June, compared with 14.2% in June of 1991 and 9.2% in pre-recession June of 1989. The higher unemployment rate, however, only partially reflects the deterioration in the student labour market, since it does not show the decline in the proportion of students actively participating in the labour force; that is, the proportion either working or looking for work. In fact, their participation rate dropped to 60.4% in June 1992, down from 63.5% in June 1989. Also the employment/population ratio among returning students was 48.7% in mid-1992, substantially below the 57.6% reached in June of 1989.³

Sharp rise in involuntary part-time work

The first half of 1992 saw a large increase in the number of persons working part time because this was the only kind of employment they could find. In June of 1992, some 730,000 persons (unadjusted data) were in this situation, up from the mid-1991 estimate of 588,000 and 73% over the June 1990 total of 422,000. At mid-year 1992, involuntary part-time employment represented more than a third (37%) of all part-time work, up considerably from the 23% share two years earlier. Over the two-year period, involuntary part-time employment almost doubled among men (to 259,000), and rose by almost two-thirds among women (to 471,000).⁴

Regional trends changing

Before 1992, the province where the employment level was most seriously affected by the recession was Ontario. Between March 1990 and December 1991, employment there dropped by about 5%, reflecting the impact of the recession on its manufacturing sector. Declines in most other provinces were considerably smaller.

Indeed, Alberta and British Columbia recorded employment increases during that period.

However, during the first half of 1992, the picture changed substantially in many provinces. Over this period, Newfoundland was especially hard hit, with an employment decline of approximately 6%. Also, the 3% employment decreases in Manitoba, Nova Scotia and Saskatchewan and the 1% decline in Quebec all exceeded the 0.5% drop in Ontario. There was little change in employment levels in either Alberta or British Columbia, but small increases were recorded in Prince Edward Island and New Brunswick.

Unemployment still rising

While the decline in employment appeared to have ended in mid-1992, the unemployment rate was still rising. In June, the unemployment rate climbed to 11.6%, its highest point since September 1984. This most recent increase, which continued the trend evident throughout most of the first half of 1992, reflected the growth in the labour force that usually results from signs of economic pick-up, that is, a resumption (or the initiation) of job search activity on the part of many people who previously had considered it pointless to look for work.

More than 1.6 million persons were classified as unemployed in June 1992, exceeding the 1.5 million peak recorded in December 1982. As noted below, however, participation in the labour force declined substantially during the most recent recession, and this dampened the rise in the unemployment rate. It remains to be seen whether an improvement in job prospects will contribute to a further increase in the number of persons seeking work, and hence to a rise in the unemployment rate while employment is growing.



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Table 1
Employment changes by province and industry (seasonally adjusted)

	March 1990 to December 1991*		December 1991 to March 1992		March 1992 to June 1992	
	'000	%	'000	%	'000	%
Canada**	-303	-2.4	-84	-0.7	4	--
Newfoundland	-3	-1.5	-10	-5.0	-1	-0.5
Prince Edward Island	-2	-3.6	-	-	1	1.9
Nova Scotia	-6	-1.6	-11	-3.0	1	0.3
New Brunswick	-5	-1.7	3	1.0	2	0.7
Quebec	-94	-3.1	-16	-0.5	-18	-0.6
Ontario	-245	-4.9	-33	-0.7	10	0.2
Manitoba	-15	-2.9	-11	-2.2	-2	-0.4
Saskatchewan	-2	-0.4	-2	-0.4	-11	-2.5
Alberta	14	1.1	-9	-0.7	8	0.6
British Columbia	54	3.7	-	-	1	0.1
Industry						
Goods-producing**	-349	-9.4	-60	-1.8	53	1.6
Agriculture	28	6.7	-7	-1.6	-12	-2.7
Other primary industries	-16	-5.6	-6	-2.2	-3	-1.1
Manufacturing	-244	-11.8	-62	-3.4	40	2.3
Construction	-133	-16.3	4	0.6	22	3.2
Service-producing**	26	0.3	-24	-0.3	-54	-0.6
Trade	-88	-3.9	-8	-0.4	5	0.2
Transportation, communication and other utilities	-25	-2.6	17	1.8	-29	-3.1
Finance, insurance and real estate	42	5.7	-21	-2.7	-2	-0.3
Community, personal and business services	97	2.3	-19	-0.4	16	0.4
Public administration	32	3.8	-1	-0.1	-37	-4.3

Source: Labour Force Survey

* From the onset of the recent recession until the end of 1991.

** Due to the components being seasonally adjusted individually, they may not add up to the Canada and industry totals.

More long-term unemployed

Long-term unemployment generally worsens (often with a lag) during poor economic times, and such was the case during the most recent recession. The average duration of unemployment increased substantially during the first six months of 1992, rising from 18 weeks and 20 weeks in the second quarters of 1990 and 1991 to over 23 weeks in the second quarter of 1992. This rise in average duration reflected a sharp increase in the number of persons who had been unemployed for over six months. From 193,000 (unadjusted) in June of 1990 and 358,000 in June of 1991, the number of such persons rose steadily throughout the first

half of 1992, reaching some 460,000 in June. The share of total unemployment accounted for by persons unemployed for over six months reached 30% in mid-1992, the highest proportion since the onset of the most recent recession (20% in March 1990).⁵

An end to the decline in labour force participation...?

Except for several months of relative stability in the first half of 1991, the overall participation rate – the share of the population aged 15 and over that is either employed or unemployed – declined steadily from 67.1% in September 1990 to 65.2% in

April 1992. This was a substantially larger decline than that which occurred in the 1981-82 recession, when the rate fell about 1 percentage point. The first increase in the rate since October 1991 occurred in May 1992, and was followed by a much larger rise (0.4%) in June.

The decline in labour force participation was most pronounced among young persons, with the rate for 15 to 24 year-olds dropping from a pre-recession level of about 70% to 66% in mid-1992. Most of this reduction occurred in 1990 and 1991, although the decline continued almost throughout the first five months of 1992. Increased school, college and university enrolment indicates that, for many young people, the pursuit of further education was chosen as an alternative to looking for work in a depressed labour market. Young people, however, accounted for most of the increase in the overall participation rate in June 1992. The increase for this age group alone that month amounted to 1.2 percentage points.

The recession-induced decline in labour force participation was not limited to young persons. The rate among adult men, which has been declining gradually for many years, dropped more rapidly in 1990 and 1991, particularly among those aged 25 to 54. The declines during the first four months of 1992, though, were relatively modest and were followed by similar modest increases in May and June.

For adult women, the recession brought a halt to the steady increases in labour force participation of about 1 percentage point per year that had occurred throughout the 1980s. In fact, after reaching 57% in mid-1991, the rate fell during the latter part of 1991 and the first quarter of 1992 – the first significant fall in decades – reaching a low of 56.1% in April before recovering to 56.5% in June.

No increase in discouraged workers

Despite the decline in labour force participation rates, Statistics Canada's annual Survey of Job Opportunities (in March), which identifies discouraged workers – defined as jobless persons who want work but are not job-hunting because they believe, for various reasons, that no suitable work is available – showed no significant increase in March 1992. Indeed, their number, at 99,000 (unadjusted), was hardly any higher than the March 1991 figure and only about half the peak recorded in the wake of the last recession (197,000 in March 1983). The situation was similar in the United States, where the increase during the recent recession was also much smaller than anticipated. The smaller-than-expected number of discouraged workers can be attributed to several factors: a decline in the youth population (aging baby boomers); an increase in school, college and university enrolment; improvements in early retirement incentives; and, for reasons not entirely clear, an increase in the number of persons who expect to return to their former employers.⁶

Increases in earnings exceeded those of consumer prices

In the area of real earnings, employees appear to have fared relatively well during the first half of 1992. Throughout 1991, increases in the Consumer Price Index exceeded those of average weekly earnings. Since the beginning of 1992, the situation has been reversed. On average, wage increases during the first quarter of 1992, for example, were about twice the corresponding rise in consumer prices. In May 1992 (the latest date for which both estimates are available), while consumer prices recorded the lowest year-over-year increase in over 20 years (1.3%), the corresponding rise in average weekly earnings was 3.5%.

Chart E

So far in 1992, growth in average weekly earnings has outpaced price increases.



Sources: Survey of Employment, Payrolls and Hours and Consumer Price Index

Conclusion

The first four months of 1992 added significantly to the pool of unemployed and underemployed workers in Canada. By mid-year, however, although the unemployment rate was still rising, there were signs of a strengthening labour market, particularly in the goods-producing industries where employment had dropped most sharply during the recession.

Nonetheless, the preceding two years of employment losses and declines in labour force participation mean that there is a great deal of ground to recover. In mid-1992, total employment in Canada (at 12.2 million) remained some 830,000 below the level that would have prevailed if the pre-recession employment/population ratio had been maintained – a difference approximately equivalent to the total number of persons employed in the three Atlantic provinces of Newfoundland, Nova Scotia and New Brunswick in June 1992. □

Notes

¹ For information on the Help-wanted Index, see Hagggar-Guénette (1989).

² For more details, see Akyeampong (1992).

³ For a full review of the data on students for previous years, see Statistics Canada (1992).

⁴ For an analysis of the cyclical effects on the numbers of involuntary part-time workers, see Akyeampong (1986).

⁵ A description of the behaviour of alternative measures of unemployment rates (including long-term unemployment rates) in recent years is scheduled for an upcoming issue of *Perspectives*. For a detailed description of these alternative measures published regularly by Statistics Canada, see Jackson (1987).

⁶ For a detailed analysis of discouraged workers, see the article by Akyeampong in this issue.

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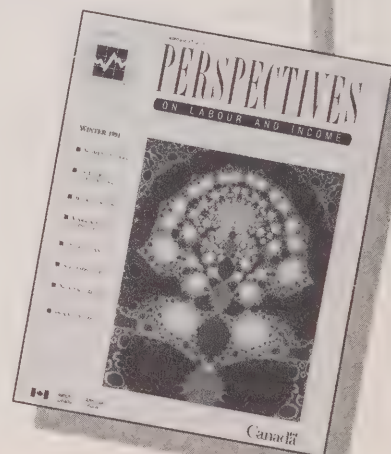
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lifting heavy objects.⁷ Another 17% of back injuries were the result of specific movements (for example, stretching to move a patient in bed) or involuntary movements (for instance, recovering from a slip on a wet floor). Falls accounted for about 12% of all back injuries. Most of the falls experienced by women were from the same level (onto floors or against objects), but about half of those experienced by men were from elevations, such as ladders, stairs, or vehicles.

Risk related to industry

Not surprisingly, back-injury claims are distributed unevenly among industries because of variations in the physical effort required to produce different goods and services. In addition, coverage of workers in high-risk industries, such as forestry and construction, may vary by province.

In 1990, 29% of back-injury claims originated in manufacturing, although these industries employed just 17% of the paid workforce. The pattern was similar in health and social services,⁸ the source of 13% of claims, but just 10% of the paid workforce. As well, in construction, the proportion of claims for back injuries (9%) exceeded that industry's share of paid workers (6%).

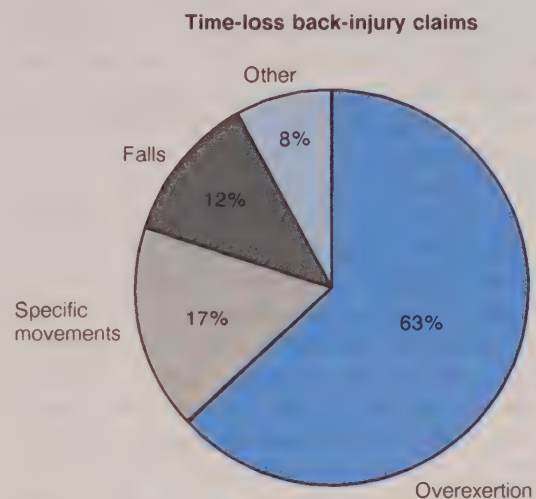
By contrast, industries normally associated with little physical effort accounted for relatively few back-injury claims. For instance, the proportion of claims originating in education (2%) was far surpassed by the percentage of workers employed in this industry (7%).

Injury-prone occupations

Of course, the probability of experiencing a back injury is directly linked to a worker's occupation and the related daily tasks. Much of the difference in the prevalence of back-injury claims among industries, and indeed,

Chart C

In 1990, most back injuries resulted from overexertion.



Source: National Work Injuries Statistics Program

between men and women, is attributable to the clustering of occupations within industries and also to the relative concentration of men and women in these occupations.

Among men, six blue-collar occupation groups accounted for over 70% of back-injury claims: product fabricating, assembling and repairing; construction trades; transport equipment operating; material handling; processing; and machining. However, together these occupations represented only 39% of male workers.

More specifically, back-injury claims were most common among men employed in occupations that involve lifting, for example, truck drivers,⁹ longshoremen, construction labourers, and motor vehicle mechanics and repairmen.

By contrast, back injuries were rare among men in most white-collar occupations. For instance, just 1% of back-injury claims were made by men in managerial or administrative positions, whereas 15% of male workers were employed in these occupations. The pattern was similar in natural sciences, social sciences, and teaching, as well as in clerical and sales occupations.

Among women, the distribution of back-injury claims by occupation differed from that of men. Fully 33% of women with claims for back injuries in 1990 worked in health-related occupations, far above the proportion of female workers employed in this occupation group (10%). Service occupations accounted for another 22% of back-injury claims made by women, whereas 15% of women worked in such jobs. And although few women had blue-collar occupations, they represented a relatively large share of back injuries. In 1990, 15% of the women who made back-injury claims worked in product fabricating, assembling and repairing, processing, or material handling, yet just 6% of female workers were employed in these occupations.

As is the case for men, back injuries tend to be experienced by women in jobs that require considerable physical exertion. For instance, nurses, chefs and cooks, waitresses, janitors and cleaners accounted for

relatively large shares of women's back-injury claims.

A small number of back-injury claims in some occupations does not necessarily mean that few workers are being injured. Instead, it may reflect a low level of coverage by Workers' Compensation. For example, many workers in beauty and barber shops, and laundries and cleaners are excluded from coverage under some provincial Workers' Compensation Acts.

Summary

Throughout the 1980s, back injuries increased faster than other compensable injuries, so that by 1990 they constituted 28% of time-loss claims. Despite rapid growth in the number of women filing such claims, they were still far outnumbered by men.

Men in blue-collar occupations such as fabricating, assembling and repairing, construction trades, transport equipment operating, and material handling were over-represented among back-injury claimants. On the other hand, among women, those working in health-related and service occupations accounted for the highest proportions of back injuries. Given the nature of work in these occupations, it is not surprising that the majority of these injuries were sprains or strains due to overexertion.□

Notes

¹ Back injuries include injuries to the back muscles, spine, spinal cord, thoracic spine, lumbar spine, sacrum and coccyx.

² No national data are available on the number of days lost from work specifically because of back injuries. The Absence from Work Survey (AWS), an annual supplement to Statistics Canada's Labour Force Survey, collects data on all work absences of two or more weeks. According to the AWS, 49% of individuals receiving Workers' Compensation in 1990 were absent from work for two to five weeks. (Contact Mike Sivyer at (613) 951-4598 for more information.) In addition, Labour Canada

(1991) estimates that in the 1990s, injured workers will lose an average of 30 days per year for work-related accidents or illnesses.

Little national information is available on the cost of back injuries to Workers' Compensation Boards or to workers sustaining these injuries. Labour Canada publishes the cost of benefits paid to injured workers for medical aid, hospitalization, pensions, and lost earnings, but does not have such data for back injuries specifically. Approximately \$1.8 billion was paid by Workers' Compensation Boards for lost earnings (time-loss claims) out of a total of \$3.9 billion in total benefits paid in 1989 (Labour Canada, 1991). According to

Notes – concluded

Statistics Canada's General Social Survey, in 1987, injured workers spent an average of \$1,112 per work accident on non-reimbursable out-of-pocket expenses (Millar and Adams, 1991).

³ Not all work injuries are reported to Workers' Compensation Boards. The General Social Survey found that fewer than half of work accidents causing injury were reported to Workers' Compensation in 1987 (unpublished data). Decisions by supervisors, health staff, or workers themselves, in addition to the paperwork involved, may result in non-reporting (Webb et al., 1989).

⁴ The drop in work injuries in 1990 is partly attributable to the decline in manufacturing jobs in Ontario and Quebec.

⁵ Paid workers are working owners of incorporated businesses or employed persons who work in an employer-employee relationship.

⁶ Since the early 1980s, several provinces have extended universal coverage to hospitals and other health-related organizations.

⁷ A summary of guidelines for weight limits when manually lifting objects is given in Drewczynski (1989). For a discussion of repetitive motion injuries, see Bertolini and Drewczynski (1990), and for a discussion of injuries among women, see Messing (1991).

⁸ See "Focus on three occupations in hospitals" in the highlights section of *Work injuries, 1988-1990* (Statistics Canada, December 1991).

⁹ See "Focus on truck drivers" in the highlights section of *Work injuries, 1987-1989* (Statistics Canada, February 1991).

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Discouraged workers – where have they gone?

Ernest B. Akyeampong

One of the interesting but less publicized labour market developments over the past five years or so is the low number of discouraged workers. Another is the changing composition of the group. Discouraged workers are defined as jobless persons who want to work and yet are not job-hunting because they believe, for various reasons, that no suitable work is available.¹ Because these people are not actively looking for work, they are not counted in the unemployment numbers.² Their number in March 1992, at 99,000, was only half the level recorded in the wake of the last recession (197,000 in March 1983). With respect to the group's profile, among the most revealing changes are that, compared with the situation a decade ago, today's discouraged worker is less likely to be a youth, and is more likely to be better educated.

This article briefly traces recent trends in the discouraged worker group and offers some reasons why its numbers during the recent recession, and indeed over the past several years, have been running at about half what they were in the early 1980s. It also compares the characteristics of today's discouraged workers with those of their counterparts at that time.

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Interestingly, the diminished growth in the number of discouraged workers during the recent economic downturn is not unique to Canada. A similar phenomenon is being observed in the United States, where the increase has also been much smaller than anticipated (1.8 million in the first quarter of 1983 compared with 1.1 million in the first quarter of 1992 – seasonally adjusted data).

This raises the question: where have the discouraged workers gone? The Survey of Job Opportunities (SJO), as well as other survey and administrative data, provide some of the answers.

Reduced numbers: underlying factors

The number of discouraged workers in March 1992 (99,000) was half the level of March 1983 (Chart A). All the major age groups saw some decline in their numbers, but the extent of the drop varied. At the extreme end, youths saw their number cut down to one-third the 1983 level, while at the other end, persons aged 45 to 54 saw their number reduced to about 70%.

Among the factors contributing to the low figures of discouraged workers during the recent economic recession are: the declining share of youths in the working age population; an increase in educational institution enrolment (and retention) and in training in general; an increasing trend towards early retirement; and, an apparent

Data source: Survey of Job Opportunities

In Canada, information on discouraged workers comes from two main sources. One is the monthly Labour Force Survey (LFS), which identifies persons who looked for work in the past six months but not in the four weeks preceding the survey week. The other is the Survey of Job Opportunities (SJO), a supplement to the LFS conducted each March since 1979 (except 1990). In this survey, all those expressing a desire for work and who are available for work are counted, regardless of their past job search activity. Not surprisingly, the more inclusive SJO approach shows more discouraged workers: 99,000 in March 1992, compared with 59,000 from the March 1992 LFS. The data contained in this study pertain to SJO results only.

Persons who report wanting a job in the SJO may not be actively seeking one for a variety of reasons. These reasons fall into two general categories: labour market-related reasons (worker discouragement, waiting for recall to a former job or waiting for replies to earlier job search efforts) and personal and other reasons (illness or disability, personal or family responsibilities, going to school, and so on).

The latest SJO results show that in March 1992, an estimated 229,000 persons reported that they wanted a job but were not seeking one for labour market-related reasons. Of these, 99,000 were discouraged workers. An additional 161,000 persons reported that they wanted work but remained outside of the labour force because of personal and other reasons unrelated to labour market conditions.

shift of some potential discouraged workers into the "waiting for recall" group.

Fewer young people

The fall in the number and share of young (15 to 24 year-old) discouraged workers can partly be traced to the reduced numbers of youths in the working age population. In March 1983, this group numbered 4.4 million and comprised 23% of the working age population. By comparison, in March 1992, the corresponding estimates were 3.7 million and 18%. Not surprisingly, therefore, youths featured less prominently in the 1992 discouraged worker group.

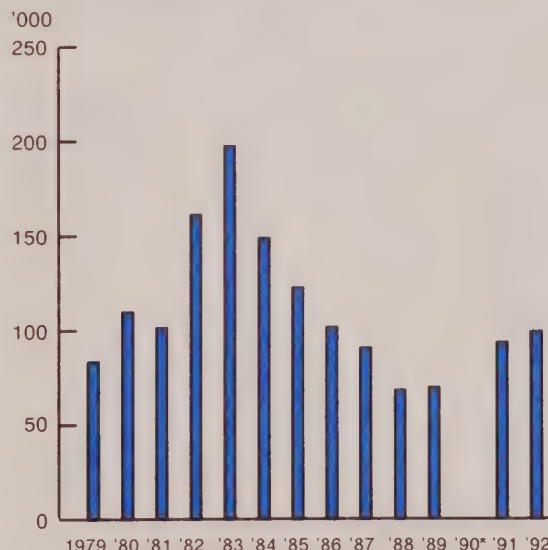
Increased educational institution enrolment and training

Administrative records also show a significant rise in school, college and university enrolment (and retention) during the recent recession. With reduced or non-existent job opportunities, many job seekers are adopting various educational strategies to improve their employment prospects. Some are entering or continuing in school rather than remaining in or entering the workforce. Data from the Association of Colleges of Applied Arts and Technology of Ontario, for example, show a 35% increase in fall 1992 applications over the previous year.

Others are enrolling in skill and trade programs sponsored by employers and governments. The number enrolled in Employment and Immigration Canada's (EIC's) Canadian Jobs Strategy Purchase of

Chart A

The increase in the number of discouraged workers in the recession of the early 1990s is much smaller.



Source: Survey of Job Opportunities

* The survey was not carried out in 1990.

Training Program, for example, rose from about 171,000 in the fiscal year 1988-89 to approximately 222,000 in the fiscal year 1990-91. And new starts in EIC's Unemployment Insurance Developmental Uses Program rose from about 33,000 in the 1989 calendar year to about 90,000 in 1990.³

Early retirement

Another reason for the small increase in worker discouragement in this recession is the trend towards early retirement. Data from the Labour Force Survey have shown a dramatic withdrawal of older males from the labour force over the past two decades. The participation rate for the 55 to 64 age group, for example, fell from 79% in 1975 to 63% in 1991. A major reason for early retirement in recent years can be traced to revisions in the Canada and Quebec Pension Plans. In 1984, the Quebec Pension Plan (QPP), and in 1987

Trends: diminished cyclical sensitivity

The number of discouraged workers has shown itself to be sensitive to both cyclical and seasonal economic activity.⁴ Their number (like that of the unemployed) generally falls during periods of high economic activity, and vice versa. However, the sensitivity displayed during the recent economic recession pales in comparison with that observed during the previous recession. For example, from a level of around 101,000 in March 1981, the count almost doubled to 197,000 in March 1983, in the wake of the economic recession of that period. In contrast, the increase in discouraged worker numbers has been slight during the recent recession and sluggish economic recovery, rising from 70,000 in March 1989 to only 99,000 in March 1992. Indeed, the latter figure is hardly any higher than the level recorded in March 1986, the fourth consecutive year of growth in the last economic upturn (Table 1 and Chart A).

Table 1

Persons who want work and are available for work by reason for not seeking work in the reference week, March 1979 to March 1992

	Total	Personal and other reasons*	Labour market-related reasons			
			Total	Waiting for recall	Waiting for replies	Believes no work is available**
			'000			
1979	278	109	170	47	39	83
1980	348	123	225	66	49	110
1981	338	120	218	70	48	101
1982	408	118	290	83	46	161
1983	474	140	334	87	50	197
1984	445	151	294	94	51	148
1985	403	139	264	103	39	122
1986	387	148	239	92	45	102
1987	346	139	207	90	27	90
1988	294	117	176	83	25	68
1989	329	150	179	86	23	70
1990†	..	..	..	..	..	..
1991	350	135	216	95	28	93
1992	390	161	229	108	23	99

Source: Survey of Job Opportunities

* Personal and other reasons include: illness and disability (45,000 in 1992); child care (28,000); other personal and family responsibilities (15,000); going to school (22,000); other, and no reason (51,000). These figures are not cyclically sensitive.

** This category refers to discouraged workers.

† The survey was not carried out in 1990.

Table 2
New retirements under the Canada and Quebec Pension Plans

Year	Total	Age	
		60 to 64	65 and over
		'000	
1980	125	...	125
1981	122	...	122
1982	124	...	124
1983	129	...	129
1984*	174	54	120
1985	184	34	150
1986	184	32	151
1987**	353	227	125
1988	248	143	104
1989	219	126	93
1990	220	128	91

Sources: Quebec Pension Board and Health and Welfare Canada

* QPP introduced flexible retirement.

** CPP introduced flexible retirement.

the Canada Pension Plan (CPP), permitted Canadians to apply for and receive retirement pensions at age 60 rather than 65 – albeit at reduced rates. The effect of these changes was to make early retirement more financially attractive for many. In 1984, about 54,000 Canadians aged 60 to 64 (hitherto excluded from pension benefits) received QPP benefits, and in 1990, approximately 128,000 Canadians in that same age group were recipients of benefits from both plans (Table 2). The availability of early retirement benefits may have caused many older job losers with few or obsolete skills or those living in areas with very high unemployment to opt for early retirement.

The increase in early retirement in recent years may also be related to the prevalence of early retirement opportunities provided in private pension plans as well as in other ad hoc early retirement incentives (for example, "the golden handshake"). Frenken (1991) provides a more detailed account of these practices.

Compositional shifts

A closer examination of the SJO data suggests that certain compositional shifts may provide another reason for the smaller numbers of discouraged workers in recent years. Notably, there appears to be a shift in numbers away from the discouraged worker ("believes no work is available") group into the "waiting for recall" group (Table 1). Up to 1984, the discouraged worker count each March was about double that of the waiting for recall group (for example, 197,000 versus 87,000 in 1983). From 1985 to 1987, the counts in the two groups were fairly even. Since then the number in the waiting for recall group has exceeded that of the discouraged worker group (for example, 108,000 compared with 99,000 in 1992). It is difficult to pin down concrete reasons for this

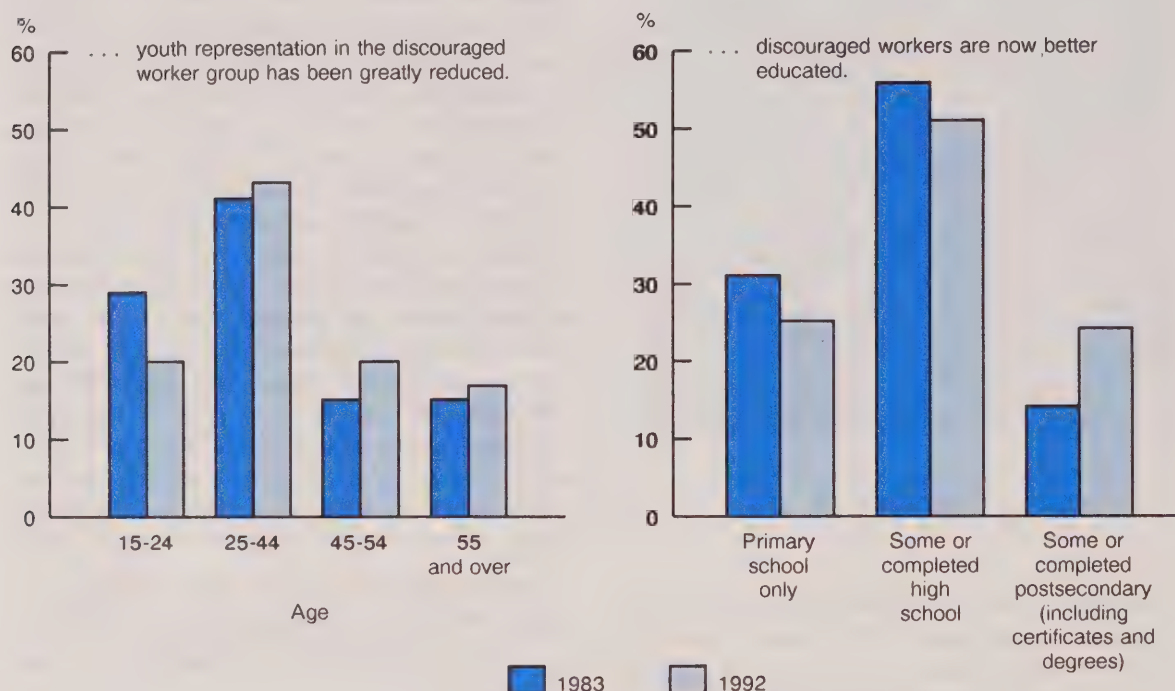
Table 3
Selected characteristics of discouraged workers, March 1983 and March 1992

	1983	1992
	'000	
Total	197	99
Age		
15-24 years	57	19
25-44 years	80	43
45-54 years	29	20
55 years and over	30	17
Sex		
Men	86	49
Women	111	50
Education		
Primary school only	60	25
Some or completed high school	109	51
Some or completed postsecondary (including certificates and degrees)	28	23
Region		
Atlantic	41	30
Quebec	79	32
Ontario	42	23
Prairies	18	11
British Columbia	16	--

Source: Survey of Job Opportunities

Chart B

Comparing the recessions of the early 1980s and 1990s . . .



Source: Survey of Job Opportunities

apparent shift – a shift that appears to be concentrated among adult males – and it would be interesting to investigate if those waiting for recall actually do return to their former employers.

Changing profile: 1983 compared with 1992

The characteristics of discouraged workers in 1992 differ in many respects from those of the 1983 group (Table 3). Notable among the changes are the group's age, educational attainment and geographical distribution.

Today's discouraged worker is much less likely to be a youth. In 1983, almost one in three discouraged workers was aged 15 to 24; by 1992, the ratio had fallen to roughly

one in five (Chart B). As pointed out earlier, many of today's youths now choose to remain in school or pursue other training to improve their employment prospects. Another significant demographic shift is that, in 1983, women outnumbered men, but in 1992, the split was even.

Today's discouraged workers are also better educated. About one-quarter of the 1992 group had at least some postsecondary education, compared with only 14% in the 1983 group (Chart B).

Discouraged workers tend to be concentrated in regions experiencing severe unemployment. This generally held true in both 1983 and 1992; however, there were some significant shifts. Together, Quebec and the Atlantic provinces have always

accounted for close to two-thirds of all discouraged workers. This was the case in both 1983 and 1992, but the distribution between these two regions in those two years differed. In 1983, approximately two-fifths of the nation's discouraged workers resided in Quebec and another one-fifth in the Atlantic. In 1992, however, Quebec's share was down to about one-third the national total and that of the Atlantic region was up to about one-third. Newfoundland alone accounted for more than half (17,000) of the Atlantic total. Compared with other provinces, British Columbia fared much better in the recent recession. Considering the severity of economic set-backs Ontario experienced during the current recession, the rise in that province's share in 1992 (to 23% from 21%) was relatively small (Chart C).

There were some compositional shifts among the major industries as well, with the largest occurring in manufacturing. In 1983, approximately 18% of discouraged workers had last worked in the manufacturing industry. The comparable figure in March 1992 was lower, at only 13%. Manufacturing has a larger-than-average share of older workers. The severe economic set-back this industry suffered during the current recession may have prompted some workers to take early retirement.

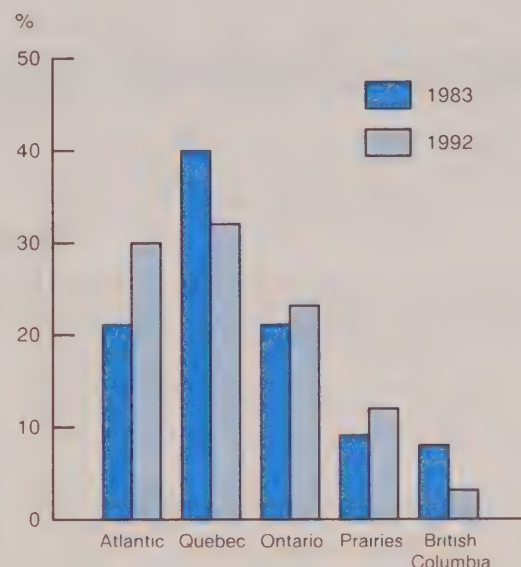
Conclusion

The increase in unemployment during the recession of the early 1990s was almost as severe as the one in the early 1980s. Yet the number of discouraged workers this time around was only one half the level a decade ago.

The decline in the discouraged worker numbers may be traced to several factors. First, a principal source of the discouraged

Chart C

Despite regional shifts, the Atlantic and Quebec still account for almost two-thirds of discouraged workers.



Source: Survey of Job Opportunities

worker population, namely youths, has diminished. Second, many people who might otherwise be discouraged workers have remained in or entered educational institutions, or become participants in employer- or government-sponsored training programs to improve their job prospects. Third, recent pension plan revisions and other early retirement incentive packages have rendered the early retirement option more financially attractive to many older workers. Finally, for reasons that are not readily apparent, many laid-off people today (more than in the early 1980s), expect to return to their former employers. □

Notes

¹ Their belief may derive from a variety of factors including: a shortage of jobs in their locality or line of work; perceived discrimination for reasons such as age, race, sex and religion; a lack of necessary skills, training or experience; or, a chronic illness or disability.

² For a detailed analysis of why they cannot be counted as unemployed see Macredie (1984) and Akyeampong (1987).

³ Under Employment and Immigration Canada's Canadian Jobs Strategy, only those not receiving Unemployment Insurance (UI) benefits are eligible to participate in the Purchase of Training Program. In contrast, only UI beneficiaries are eligible under the UI Developmental Uses Program. Training accounts for the bulk of funds allocated under this program, but some allocation also goes to job creation and work sharing.

⁴ For detailed analyses of the seasonal sensitivity, see Macredie (1984) and Akyeampong (1987 and 1989).

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What's new?

Just released

Income and employment profiles of small areas

After updating its databases with 1990 figures, the Small Area and Administrative Data Division (SAADD) now provides the most recent labour market and income figures available for small geographic areas. The data are derived from 1990 income tax returns, filed by about two-thirds of adult Canadians, and provide information about such characteristics as income, labour force activity, family status, and migration patterns. These products are available for census areas, such as census divisions (CDs) and census metropolitan areas (CMAs), and for postal code areas as well as areas specified by clients. Three databases updated in the last quarter, and now available to users, are described below.

Demographic and income statistics for postal areas provide information about the age, sex and marital status of taxfilers, Family Allowance and Unemployment Insurance benefits as well as employment income. Area averages are compared with provincial and national averages. Data are available for Forward Sortation Areas (FSAs), rural postal codes and postal walks. For example, in the Ottawa FSA with the prefix "K1S":

- 17,800 people filed tax returns; 48% of them were between 25 and 44 years old, and 52% had personal incomes over \$25,000.
- At \$26,800, the median total income for all taxfilers in the Ottawa FSA was 25% higher than the provincial and 40% higher than the national median.

The *Labour force income profile* offers statistics on the number of taxfilers reporting in the area, total and median income, employment income and Unemployment Insurance (UI) benefits. For instance, in the census division of Ottawa-Carleton in 1990:

- Almost 371,000 people reported total employment income of more than \$10 billion; about \$165 million came from UI payments.
- The median employment income of \$24,600 was 14% higher than the provincial median and 27% higher than the Canadian median.

Economic dependency ratios (EDRs) measure the dollar value of government transfers received by residents of an area compared with the area's employment income. The EDR breaks payments down into their component parts – private and public pensions, Family Allowance, Unemployment Insurance, Old Age Security, the Federal Sales Tax Credit,

the Goods and Services Tax Credit, the Child Tax Credit, other reported non-taxable income and provincial tax credits. The EDR for the chosen small area is compared with the provincial and national averages.

Taking the census division of Ottawa-Carleton in 1990 as an example:

- The EDR was 18, (for every \$100 of employment income, the region received \$18 in transfer payments, totalling over \$1.9 billion); it was 2% higher than the EDR for Ontario, but 11% lower than that for Canada.
- The biggest contributor to the EDR, accounting for almost half the dollar outlay, was private pension benefits (pensions other than the Canada or Quebec Pension Plans).
- 56% of a total \$1,095 million in transfer payments to men consisted of private pension benefits, compared with 29% of \$853 million in transfer payments paid to women.

For further information about the custom-service products from SAADD, call (613) 951-9720, or fax (613) 951-4745. □

New survey shows Canadians planning more carefully for retirement

Results of the first national Survey on Ageing and Independence are now available. The survey, conducted by Statistics Canada in September 1991 under the sponsorship of a consortium of federal departments, collected data on a broad range of characteristics that contribute to the quality of life of older Canadians. Researchers with the Canadian Ageing Research Network (CARNET) assisted in the survey design.

Approximately 20,000 individuals aged 45 and over were interviewed about topics that included: retirement and retirement preparations and expectations; labour force activity; economic well-being; social support and contributions; health; and, living arrangements and housing. Half the respondents represented "today's seniors" (those 65 years and over), while the other half comprised "tomorrow's seniors" (those 45 to 64 years).

Among the highlights of the survey are:

- 41% of retirees aged 45 to 64 and 50% of those aged 65 and over had not actively prepared for retirement; on the other hand, about 20% of those aged 45 and over did spend six years or more preparing for retirement, usually by contributing to RRSPs, building up savings and avoiding the accumulation of debts.
- About 70% of respondents believed that their income and investments would meet their future financial needs, but 21% of those aged 45 to 64 anticipated money problems.
- Labour force participation rates for both sexes declined sharply with age, with 60 seeming to mark the dividing line. Participation rates dropped from 94% for men aged 45 to 49, to 49% for those 60 to 64, and to less than 8% for older men; among women, rates fell from 77% among 45 to 49 year-olds to 24% for those 60 to 64, and to less than 5% for women 65 and over.
- Pensions were the main source of personal income for men and women 65 years and over. Private pensions were the main source of personal income for 32% of men aged 65 to 69 and for only 9% of women; conversely, 71% of women and

41% of men relied on government pensions as their main source of income.

- Stress is a significant factor for many people aged 45 and over: nearly half the respondents reported coping with the death or serious illness of a family member, relative or close friend, or with their own serious illness or injury, at some time in the 12 months preceding the survey.
- About 78% of 45 to 64 year-old Canadians owned homes, and almost two-thirds of them had paid off their mortgages; meanwhile, 64% of those 65 and older were homeowners and 9 in 10 had clear title to their homes. Most homeowners paid off their mortgages as they approached retirement age: almost half (47%) of those aged 45 to 49 were mortgage free, compared with 84% in the 60 to 64 age group.

A brief information package containing highlights of the main findings of the Survey of Ageing and Independence is now available and a microdata file can also be ordered. A complete analytical report on the survey findings is scheduled for publication in the fall of 1992. For more information, contact Gilles Montigny at (613) 951-9731 or Nancy Darcovich at (613) 951-4585. □

Profiles of life in rural areas and small towns

Hard data on rural communities and small towns has not been readily accessible to the general user of statistics. With the publication of *Rural and small town Canada*, the authors hope to "benchmark" the economic and social situation of Canadians living in small communities. The data have been

collected by Statistics Canada for a number of years, but this is the first time they have been pulled together to produce a comprehensive portrait.

The report's 22 papers place considerable emphasis on businesses and labour markets in smaller communities (about half the papers), and related themes such as income, health and social conditions. (An abridged version of one of the papers, "Are single industry towns diversifying? A look at fishing, mining and wood-based communities," appeared in the Spring 1992 issue of *Perspectives*.) Most of the data are presented at the national level, but several case studies examine the situation of specific regions or provinces.

Among some of the observations presented in the report:

- Very few single resource-based towns have diversified their economies over the past 20 years.
- Small- and medium-sized firms record lower profits in small towns than in urban areas.
- Farm women have higher labour force participation rates than non-farm women; in some rural areas, farm women account for 40% of non-agricultural female employment.
- Rural Canadians pay fewer taxes and receive more transfer payments than urban Canadians.
- Mortality rates are higher in rural areas, and specific health problems plague many "typically" rural occupations, such as farming.
- One-third of rural Canadians live on the fringe of major metropolitan areas.

Rural and small town Canada is available for \$29.95 (shipping, handling and GST extra) from Thompson Educational Publishing, 11 Briarcroft Road, Toronto, M6S 1H3. Telephone (416) 766-2763; fax (416) 766-0398. □

Just in time for new census data: definitions and concepts on-screen

For census users who work on personal computers, Statistics Canada recently released an electronic version of its 1991 Census dictionary of terms and definitions. Using the keyword-search principle, users of the *1991 Census electronic dictionary* will be able to find detailed information about all variables used by the 1991 Censuses of Population and Agriculture.

The ease of keyword search is boosted by a cross-referencing, or linking, feature that accepts common synonyms for specialized census terms; for example, the colloquial term "senior" will prompt a search based on the census keyword "age." Thus, familiarity with census terms is not required – a boon for new or infrequent users. The complete text of definitions and concepts can be printed directly from the table of contents menu, or it can be exported for use in spreadsheets and word processing packages for inclusion in larger documents. The dictionary also provides a list of French equivalents for English terms. The user-friendly software can be easily installed on an IBM-compatible 286 PC with MS DOS 3.0 or a more recent edition of DOS.

The *1991 Census electronic dictionary* (Catalogue 92-301D E), comprising one diskette and supporting user documentation, is available for \$40 from your nearest Statistics Canada Reference Centre (listed inside the front cover of *Perspectives*). □

Bureau of Labour Information offers overview of contract settlements

The Bureau of Labour Information is perhaps the first point of reference for observers of trends and significant developments in industrial relations in Canada. This branch of Labour Canada provides up-to-date information about the state of labour negotiations and wage settlements, including copies of collective agreements and data on general economic conditions likely to affect negotiations. It also offers the services of the largest industrial relations library in the country. The Bureau produces several important regular publications as well. Two monthly reports should be of particular interest to *Perspectives* readers.

The wage settlement bulletin: This monthly newsletter provides information covering bargaining units of 500 or more employees. Analytical highlights compare the previous month's settlements with trends of the previous year. Data are provided by province and industry, and information on the distribution of settlements according to increases in base rates is also presented. Tables listing current and upcoming negotiations cover parties involved and status of talks (for example, whether bargaining or in mediation). The text is well supplemented with charts.

Collective bargaining review: This 70 to 80-page publication, issued 11 times per year, complements *The wage settlement bulletin*, and sets out details of key agreements (wages, hours, benefits) reached during the month. An index system alerts readers to the specific settlements covered. The review carries a list of contracts soon slated to expire, as well as tables of wage increases and work stoppages during the month.

The Bureau of Labour Information also produces other reports on a less frequent basis – among them the annual *Directory of*

labour organizations, *Access: labour's guide to federal programs and services*, and *Collective bargaining information services*. Special reports that address specific issues are also published on an occasional basis.

A yearly subscription to *The wage settlement bulletin* is \$214; an annual subscription to the *Collective bargaining review* is \$107 (both prices include GST). For more information, please call the Bureau of Labour Information at 1-800-567-6866 or (819) 997-3117. To order, write to the Canada Publishing Group, Supply and Services Canada, Ottawa, Ontario, K1A 0S9. □

Phenomenon of home-based business explored in new research report

The National Home-Based Business Project Committee recently released the results of its investigation into home-based business activity in Canada. The report, entitled *Home enterprise: Canadians and home-based work*, represents the findings of two professors at The School of Business Management at Ryerson Polytechnical Institute in Toronto.

Created in November 1990, the Committee's mandate was to assess the extent of home-based business operations and their economic impact on the community, as well as to review municipal regulations that affect home-based firms. The report makes use of two primary data sources, a national Gallup Poll and a survey of 400 home-based business owners, and is supplemented with data from Revenue Canada-Taxation files, the 1981 and 1986 Censuses of Population, and a survey of 21 municipalities.

One of the major challenges confronting the researchers was the lack of agreement about what constitutes home-

based business activity: analysts can select a definition suitable to their needs from a whole spectrum of choices. For example, depending on the definition used, the incidence of home-based business in Canada ranges from 5% to 23% of all households.

Among the researchers' findings are:

- About 1 in every 10 Canadian households has a self-employed worker; of these people, half are full-time workers.
- The typical home business generates two jobs, which are often filled by non-family members.
- Half of the home-based businesses are in a service industry.
- Home-based businesses represent a growing market for office equipment suppliers. People starting home-based businesses intend to spend several thousand dollars on equipment, and their priorities most often include a personal computer, printer, fax machine, photocopier, cellular phone and answering machine.

Since one purpose of the report is to provide a reference tool for ongoing research, it also includes an extensive compendium of bibliographic references.

Home enterprise: Canadians and home-based work and its companion summary document, *Home business: the new reality*, are available in full depository libraries across Canada. They can also be obtained from a number of organizations involved in the Home-Based Business Project, among them Employment and Immigration Canada, the Federation of Canadian Municipalities, the Canadian Federation of Independent Business and many home-based business associations.

For more information, contact Michael Roche, Federation of Canadian Municipalities, at (613) 237-5221, or fax (613) 237-2965; or Barb Mowat, National Home-Based Business Project Committee at (604) 520-5720, or fax (604) 854-3087. □

Monitoring women's movement into non-traditional fields of study

The University and College Affairs Branch of Industry, Science and Technology Canada recently published the second volume of its series *Women in science and engineering*. Covering the period from 1977-78 to 1989-90, the report examines over 200 public colleges in terms of: women's enrolment in and graduation from science and engineering career programs; and the distribution of female faculty members in those fields. (Volume 1 of the series describes female enrolment, graduation and faculty in universities.)

The study defines four major fields of study as "science and engineering": (1) engineering and applied sciences; (2) natural sciences and primary industries; (3) health sciences; and (4) social sciences and services. Over the decade, women's standing in these fields taken together appears to have changed little. In 1977-78, they accounted for 50% of full-time students enrolled in science and engineering disciplines; by 1989-90, they made up 51%.

Despite the apparent overall stability, some changes occurred within the various fields of study during the period:

- In 1989-90, 16% of full-time students enrolled in engineering and applied sciences were women (up from 13% in 1977-78) and in natural sciences and primary industries, 31% of students were women compared with 25% in 1977-78.

Over the same period, the proportion of women studying health sciences dropped from 90% to 84%.

- The proportion of full-time female students graduating from college career programs reflected the enrolment figures: they changed most significantly in engineering and applied sciences (rising from 11% of graduates in 1977 to 16% in 1989), natural sciences and primary industries (increasing from 24% to 32%), and health sciences (falling from 92% to 84%).

Data on teachers are somewhat limited for two reasons: data for Quebec are not available by field of study; and, coverage includes both trade school and other postsecondary teachers. However, it can be observed that in 1987-88:

- Women accounted for 34% of full-time teachers in all college career programs, whereas they made up 31% of teachers in science and engineering programs.
- Women dominated teaching in health sciences, where they made up 86% of the faculty; on the other hand, they accounted for fewer than 4% of the teaching staff in engineering and applied sciences.

Women in science and engineering, volume II: colleges is available from the University and College Affairs Branch, Science and Technology Sector, Industry, Science and Technology Canada, 235 Queen Street, Ottawa, Ontario, K1A 0H5, or by calling (613) 990-7228. Volume 3 of this series will address the labour force experience of women in science and engineering. □

Assessing the nation's human resources

The findings of the final analytical report on the General Social Survey (GSS) Cycle 4 provide valuable insights into the way Canadians are preparing to face the future. *Human resource challenges of education, computers and retirement*, by Graham S. Lowe of the University of Alberta, digs deep into the results of GSS Cycle 4, which was conducted from January to February 1989. (For a description of the aims, structure and methodology of the GSS, please refer to "Sources" in the Spring 1990 issue of *Perspectives*.)

The analysis in *Human resource challenges of education, computers and retirement* focusses on three different but related topics: education, computer literacy, and attitudes to retirement. All are clearly linked to emerging labour market issues – education and computer literacy because they are becoming essential for success in the workplace, and retirement because it may pose challenges to economic growth and social well-being that we do not yet clearly anticipate. (Some of the material in this report has been published in *Perspectives* as "Computers in the workplace," Summer 1991, and "Retirement attitudes, plans and behaviour," Autumn 1991.)

Some highlights of the report are:

- In 1989, 10% of Canadians aged 15 and over were enrolled in a postsecondary degree or diploma program; 62% of these enrolled students were people whose main activity was working.
- 14% of the workforce was enrolled in an educational program leading to a degree, diploma or certificate; about half of these people were taking courses to improve or change their careers.
- About 36% of workers had jobs in the field in which they had studied, but 43% worked in jobs that they perceived were not related to their educational background.
- Almost half the adults in Canada were able to use computers and over one-third of the workforce used computers in their jobs.
- 55% of clerical workers and 52% of managers and administrators worked with computers; about two-thirds of the workers whose jobs had been affected by technological change in the last half of the 1980s felt that the skills required to perform their work had increased.
- In 1989, about 55% of male employees and 49% of female employees were covered by company pension plans; among those who had already retired, 3 in 5 men received company pension benefits compared with fewer than 3 in 10 women.
- About 28% of retirees left the workforce because they had reached the age of 65, but almost as many retired because of health reasons.

Human resource challenges of education, computers and retirement (Catalogue 11-612E, no. 7) is available for \$40 from Publications Sales and Service, Statistics Canada, Ottawa, Ontario, K1A 0T6; fax (613) 951-1584. For further information about Cycle 4, contact Ghislaine Villeneuve at (613) 951-4995; for information about the complete GSS project, contact Doug Norris at (613) 951-2572. □

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Key labour and income facts

The following selection of labour and income indicators is drawn from 12 sources and includes published and unpublished annual data. These indicators appear in every issue.

The latest annual figures are always shown; as results become available, the indicators are updated so that every issue contains new data. An indicator updated since the last issue is "flagged" with an asterisk.

Data sources

The indicators are derived from the following sources:

- 1-11 & 15 Labour Force Survey**
Frequency: Monthly
Contact: Doug Drew (613) 951-4720
- 12-14 Labour Market Activity Survey**
Frequency: Annual
Contact: Richard Veevers (613) 951-4617
- 16 Absence from Work Survey**
Frequency: Annual
Contact: Denis Lefebvre (613) 951-4600
- 17 Workers' Compensation statistics**
Frequency: Annual
Contact: Joanne Proulx (613) 951-4040
- 18 Help-wanted Index**
Frequency: Monthly
Contact: André Picard (613) 951-4045
- 19-20 Unemployment Insurance statistics**
Frequency: Monthly
Contact: André Picard (613) 951-4045
- 21-28 Survey of Employment, Payrolls and Hours**
Frequency: Monthly
Contact: Howard Krebs (613) 951-4063

- 29-31 Labour Canada, major wage settlements**
Frequency: Quarterly
Contact: Information (819) 997-3117
- 32-34 Labour income (Revenue Canada – Taxation-based statistics, Survey of Employment, Payrolls and Hours and other surveys)**
Frequency: Quarterly
Contact: Ed Bunko (613) 951-4048
- 35-45 Survey of Consumer Finances**
Frequency: Annual
Contact: Kevin Bishop (613) 951-2211
- 46-52 Household Facilities and Equipment Survey**
Frequency: Annual
Contact: Penny Barclay (613) 951-4634
- 53-54 Administrative data**
Frequency: Annual
Contact: Customer Services (613) 951-9720

Notes on the method of deriving certain indicators are given at the end of the table.

Additional data

The table provides at the most two years of data for each indicator. A longer time series (generally 10 years) for this set of indicators can be obtained, on paper or diskette, at a cost of \$50. (A more extensive explanation of the indicators is also available.) This 10-year data set is updated annually in April. For information, contact Jeannine Usalcas at (613) 951-6889.

Key labour and income facts

No.	Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
Labour market							
1 Labour force	'000	1990	13,681	242	65	424	331
		1991	13,757	241	64	422	327
Change	%		0.6	-0.4	-1.7	-0.4	-1.0
2 Participation rate	%	1990	67.0	56.0	66.0	62.1	59.8
		1991	66.3	55.3	65.1	61.3	58.6
3 Employed	'000	1990	12,572	201	55	379	291
		1991	12,340	197	53	371	286
Change	%		-1.8	-2.0	-3.9	-2.1	-1.7
4 Proportion of employed working part time	%	1990	15.4	11.3	15.5	15.8	14.6
		1991	16.4	12.3	16.2	17.0	15.3
5 Proportion of part-timers wanting full-time work	%	1990	22.4	52.3	35.5	33.1	37.9
		1991	27.7	59.1	39.3	38.6	39.8
6 Unemployed	'000	1990	1,109	41	10	45	40
		1991	1,417	44	11	51	42
Change	%		27.7	7.4	11.2	13.9	4.0
7 Official unemployment rate	%	1990	8.1	17.1	14.9	10.5	12.1
		1991	10.3	18.4	16.8	12.0	12.7
Alternative measures of unemployment							
8 Unemployed 14 or more weeks as a proportion of the labour force	%	1990	3.1	8.3	5.6	4.2	4.6
		1991	4.6	9.3	6.3	5.2	5.2
9 Unemployment rate:							
– of persons heading families with children under age 16	%	1990	7.3	16.5	15.3	9.3	11.2
		1991	9.1	17.0	16.9	10.5	11.8
– excluding full-time students	%	1990	8.0	17.2	15.4	10.5	12.0
		1991	10.1	18.4	17.3	11.9	12.6
– including full-time members of the Canadian Armed Forces	%	1990	8.1	17.0	14.7	10.2	11.9
		1991	10.2	18.3	16.7	11.7	12.5
– of the full-time labour force	%	1990	9.6	19.7	18.2	12.8	14.6
		1991	12.4	21.6	20.4	15.0	15.5
– of the part-time labour force	%	1990	10.1	15.6	7.6	12.9	13.5
		1991	11.8	16.2	10.2	13.9	13.6
– including persons on the margins of the labour force	%	1990	8.7	20.3	16.4	11.3	14.0
		1991	11.0	22.2	18.4	13.0	14.8
10 Underutilization rate based on hours lost through unemployment and underemployment	%	1990	10.2	20.3	18.5	13.5	15.4
		1991	13.0	22.3	20.9	15.7	16.4
11 Proportion unemployed six months or longer	%	1990	18.4	26.8	--	18.5	17.6
		1991	23.3	28.2	--	21.1	21.4

See Notes and definitions at end of table.

Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
3,399	5,268	544	483	1,324	1,601	..	..	1990	'000	1
3,392	5,276	541	484	1,357	1,652	..	..	1991		
-0.2	0.2	-0.6	0.3	2.5	3.2	..	..		%
64.3	69.4	67.6	66.8	72.1	66.0	..	..	1990	%	2
63.4	68.3	66.9	67.1	72.5	66.4	..	..	1991		
3,055	4,937	505	449	1,231	1,469	..	..	1990	'000	3
2,987	4,770	494	449	1,246	1,489	..	..	1991		
-2.2	-3.4	-2.3	-0.1	1.2	1.4	..	..		%
13.8	15.8	18.2	17.1	15.0	16.7	..	..	1990	%	4
14.9	16.9	19.2	17.7	15.2	18.0	..	..	1991		
33.1	14.5	21.8	27.5	19.3	21.4	..	..	1990	%	5
36.7	21.8	29.7	31.8	21.3	25.7	..	..	1991		
345	331	39	34	93	132	..	..	1990	'000	6
405	506	48	36	111	163	..	..	1991		
17.6	53.1	21.0	5.5	19.7	23.6	..	..		%
10.1	6.3	7.2	7.0	7.0	8.3	..	..	1990	%	7
11.9	9.6	8.8	7.4	8.2	9.9	..	..	1991		
4.5	2.0	2.8	2.5	2.2	2.9	..	..	1990	%	8
5.8	4.2	3.9	2.8	3.0	4.1	..	..	1991		
										9
8.6	5.6	5.9	6.7	6.5	7.7	..	..	1990	%	
10.4	8.3	7.4	6.6	7.5	9.0	..	..	1991		
10.1	6.0	6.9	6.9	6.8	8.1	..	..	1990	%	
11.9	9.3	8.7	7.2	8.0	9.7	..	..	1991		
10.1	6.2	7.2	7.0	7.0	8.2	..	..	1990	%	
11.9	9.5	8.7	7.3	8.2	9.8	..	..	1991		
12.2	7.1	9.1	9.1	8.1	9.8	..	..	1990	%	
14.5	11.2	11.5	9.9	9.5	12.2	..	..	1991		
11.8	9.1	8.9	9.5	10.5	10.4	..	..	1990	%	
13.1	11.6	11.0	10.5	11.1	10.6	..	..	1991		
11.3	6.5	7.7	7.5	7.3	8.6	..	..	1990	%	
13.3	9.9	9.3	7.9	8.5	10.2	..	..	1991		
12.6	7.7	9.7	9.8	8.7	10.4	..	..	1990	%	10
14.9	11.9	12.1	10.7	10.1	12.8	..	..	1991		
23.7	13.8	19.3	16.7	15.3	16.5	..	..	1990	%	11
27.4	22.7	22.3	18.0	17.9	20.9	..	..	1991		

See Notes and definitions at end of table.

Key labour and income facts

No.		Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
Other labour market indicators								
12	Employed at some time in the year, men, age 16 to 69	'000	1988	7,688	157	37	241	195
	– as proportion of male population age 16 to 69	%		86.6	82.6	88.1	83.7	82.3
		'000	1989	7,707	158	37	241	197
		%		85.8	81.3	87.0	83.5	82.1
	Employed at some time in the year, women, age 16 to 69	'000	1988	6,337	120	32	197	164
	– as proportion of female population age 16 to 69	%		69.7	62.2	74.4	64.6	66.9
		'000	1989	6,364	124	32	197	164
		%		69.2	63.9	74.6	64.4	66.0
13	Unemployed at some time in the year, men, age 16 to 69	'000	1988	1,366	51	11	89	55
	– as proportion of male population age 16 to 69	%		15.4	26.8	26.2	17.0	23.2
		'000	1989	1,307	52	10	54	60
		%		14.5	26.6	23.3	18.8	25.1
	Unemployed at some time in the year, women, age 16 to 69	'000	1988	1,247	44	10	49	43
	– as proportion of female population age 16 to 69	%		13.7	22.8	23.3	16.1	17.6
		'000	1989	1,162	41	9	45	48
		%		12.6	21.2	21.7	14.7	19.2
14	Full-time, full-year male paid workers	'000	1988	4,017	63	13	121	87
			1989	3,897	53	13	120	76
	Full-time, full-year female paid workers	'000	1988	2,597	35	11	76	60
			1989	2,613	33	11	76	52
15	Days lost per full-time worker per year through illness or for personal reasons	days	1990	9.4	10.1	7.3	9.1	9.3
			1991	9.4	10.6	8.0	9.7	9.4
*16	Proportion of paid workers absent two or more consecutive weeks because of illness or accident	%	1990	6.7	4.7	4.4	6.8	6.5
			1991	6.3	5.0	4.8	5.6	6.5
17	Workers receiving Workers' Compensation for time-loss injuries	'000	1989	621	11	2	14	13
	Change	%	1990	587	10	3	13	13
				-5.5	-3.0	4.1	-7.4	-4.4
18	Help-wanted Index (1981 = 100)		1990	114	153	133	161	162
			1991	75	100	106	111	116

See Notes and definitions at end of table.

Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
1,962	2,909	303	277	729	877	..	..	1988	'000	12
84.7	88.4	87.3	87.4	88.5	85.4	..	..		%
1,949	2,939	294	267	731	894	..	..	1989	'000	
83.4	81.1	84.7	84.8	87.8	84.9	..	..		%
1,542	2,462	257	228	621	716	..	..	1988	'000	
64.4	72.9	72.2	71.9	75.7	68.5	..	..		%
1,548	2,466	251	226	623	733	..	..	1989	'000	
64.1	72.1	70.8	71.3	75.2	68.5	..	..		%
400	404	53	43	128	172	..	..	1988	'000	13
17.3	12.3	15.3	13.6	15.5	16.7	..	..		%
386	377	57	40	126	145	..	..	1989	'000	
16.5	11.3	16.3	12.7	15.1	13.8	..	..		%
362	361	51	39	114	173	..	..	1988	'000	
15.1	10.7	14.3	12.3	13.9	16.6	..	..		%
323	360	44	32	91	167	..	..	1989	'000	
13.4	10.5	12.3	10.3	11.0	15.6	..	..		%
1,014	1,661	153	123	356	425	..	..	1988	'000	14
978	1,570	149	123	355	460	..	..	1989		
638	1,087	104	79	248	259	..	..	1988	'000	
657	1,081	101	82	260	261	..	..	1989		
10.5	9.5	9.0	8.0	7.3	8.5	..	..	1990	days	15
10.9	9.0	9.3	8.5	7.9	8.7	..	..	1991		
7.5	6.7	6.4	5.8	5.2	6.8	..	..	1990	%	16
7.8	6.0	6.1	5.0	4.9	6.2	..	..	1991		
219	201	22	14	45	80	..	1	1989	'000	17
205	184	21	14	39	84	..	1	1990		
-6.4	-8.2	-1.2	-1.2	-13.6	6.1	..	-17.6		%	
127	111	97	106	65	116	..	..	1990		18
85	69	66	79	41	80	..	..	1991		

See Notes and definitions at end of table.

Key labour and income facts

No.	Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
Unemployment insurance							
*19 Total beneficiaries	'000	1990	1,121	74	13	56	58
		1991	1,365	80	15	63	65
Change	%		21.8	8.4	13.1	12.9	11.8
*20 Regular beneficiaries without reported earnings	'000	1990	855	59	10	42	47
		1991	1,024	63	11	46	51
Change	%		19.8	7.3	12.2	11.4	9.9
Earnings (including overtime) and hours							
*21 Average weekly earnings in current dollars	\$	1990	512.79	484.61	419.63	458.50	463.45
		1991	540.87	511.14	431.32	483.76	489.71
Change	%		5.5	5.5	2.8	5.5	5.7
*22 Average weekly earnings in 1981 dollars	\$	1990	324.14	323.94	282.20	297.92	299.77
		1991	323.68	321.67	269.74	296.24	297.51
Change	%		-0.1	-0.7	-4.4	-0.6	-0.8
*23 Average weekly earnings of salaried employees in current dollars	\$	1990	635.97	586.43	548.55	580.85	580.34
		1991	672.16	613.37	573.37	626.79	613.18
Change	%		5.7	4.6	4.5	7.9	5.7
*24 Average weekly earnings of salaried employees in 1981 dollars	\$	1990	402.00	392.00	368.90	377.42	375.38
		1991	402.25	386.01	358.58	383.83	372.83
Change	%		0.1	-1.5	-2.8	1.7	-0.7
*25 Average weekly earnings of hourly paid employees in current dollars	\$	1990	403.41	372.40	280.59	357.91	371.54
		1991	421.52	394.07	285.34	373.18	392.60
Change	%		4.5	5.8	1.7	4.3	5.7
*26 Average weekly earnings of hourly paid employees in 1981 dollars	\$	1990	255.00	248.93	188.70	232.56	240.32
		1991	252.26	248.00	178.45	228.52	239.12
Change	%		-1.1	-0.4	-5.4	-1.7	-0.5
*27 Average weekly hours of hourly paid employees	hrs	1990	31.5	34.6	31.5	32.2	33.7
		1991	31.0	33.8	31.1	31.8	33.4
*28 Average weekly overtime hours of hourly paid employees	hrs	1990	1.1	1.5	0.5	0.8	0.9
		1991	1.0	1.5	0.4	0.6	0.8
Major wage settlements							
29 Number of agreements		1990	504	11	1	7	18
		1991	528	15	4	19	24
30 Number of employees	'000	1990	1,149	18	1	15	29
		1991	1,325	52	7	29	42
31 Increase in base rate on annual basis	%	1990	5.7	7.0	5.8	5.4	6.2
		1991	3.6	2.3	5.5	0.5	2.5

See Notes and definitions at end of table.

Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
368	280	35	27	74	132	2	2	1990	'000	19
427	391	41	30	90	159	2	2	1991		
16.3	39.8	17.4	11.1	20.7	19.9	9.4	21.5		%	
293	202	26	20	56	98	1	1	1990	'000	20
330	286	28	22	67	116	1	2	1991		
12.5	41.9	10.9	7.6	19.8	17.8	8.0	18.9		%	
502.02	535.78	462.78	445.80	509.86	515.91	612.22	705.48	1990	\$	21
530.00	565.27	482.26	471.04	542.66	543.39	646.02	749.42	1991		
5.6	5.5	4.2	5.7	6.4	5.3	5.5	6.2		%	
318.54	327.89	297.23	290.42	338.33	340.98	..	..	1990	\$	22
313.24	330.57	294.78	291.67	340.44	341.12	..	..	1991		
-1.7	0.8	-0.8	0.4	0.6	-	..	..		%
602.37	670.17	590.77	581.86	655.15	628.93	747.27	776.47	1990	\$	23
634.87	709.30	614.81	613.49	699.12	663.42	791.98	810.16	1991		
5.4	5.8	4.1	5.4	6.7	5.5	6.0	4.3		%	
382.21	410.14	379.43	379.74	434.74	415.68	..	..	1990	\$	24
375.22	414.80	375.81	379.87	438.60	416.46	..	..	1991		
-1.8	1.1	-1.0	-	0.9	0.2	..	..		%
406.93	415.59	356.20	327.33	373.65	432.05	446.27	610.01	1990	\$	25
428.63	433.98	367.44	340.01	389.06	448.89	473.00	659.21	1991		
5.3	4.4	3.2	3.9	4.1	3.9	6.0	8.1		%	
258.20	254.34	228.77	213.24	247.94	285.56	..	..	1990	\$	26
253.33	253.79	224.60	210.54	244.08	281.79	..	..	1991		
-1.9	-0.2	-1.8	-1.3	-1.6	-1.3	..	..		%
32.4	31.4	31.2	28.7	30.2	30.3	35.2	35.5	1990	hrs	27
32.0	31.0	30.5	28.5	30.0	29.6	32.1	36.0	1991		
0.9	1.1	0.9	0.9	1.6	1.1	2.2	3.8	1990	hrs	28
0.9	0.9	0.8	0.9	1.5	1.0	2.0	4.2	1991		
101	206	14	8	56	32	..	..	1990		29
102	152	41	5	43	55	..	..	1991		
405	396	14	20	103	32	..	..	1990	'000	30
449	268	75	11	56	72	..	..	1991		
4.8	6.5	5.1	3.9	5.6	7.0	..	..	1990	%	31
3.2	5.8	2.4	4.4	5.3	5.0	..	..	1991		

See Notes and definitions at end of table.

Key labour and income facts

No.		Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
Labour income								
*32	Labour income in current dollars	\$ million	1990	368.6	5.0	1.1	9.2	7.2
			1991	379.0	5.2	1.2	9.4	7.5
	Change	%		2.8	3.2	2.5	2.2	4.0
*33	Labour income per employee in current dollars	\$	1990	33,600	28,300	24,900	27,800	28,500
			1991	35,200	30,200	26,800	29,100	30,000
	Change	%		5.0	6.6	7.4	4.9	5.3
*34	Labour income per employee in 1986 dollars	\$	1990	28,100	24,900	21,300	23,600	24,400
			1991	27,900	25,000	21,300	23,400	24,200
	Change	%		-0.6	0.4	-0.1	-1.1	-1.1
35	Net income from self-employment as a proportion of money income	%	1989	5.8	3.9	9.1	5.9	4.2
			1990	5.2	3.6	7.6	5.4	4.9
Earnings of full-time, full-year workers								
36	Average earnings of men working full time, full year	\$	1989	35,100	30,600	25,900	31,900	31,200
			1990	36,900	30,000	27,100	33,200	32,500
	Change	%		5.0	-1.9	4.6	4.1	4.2
37	Average earnings of women working full time, full year	\$	1989	23,100	21,700	19,800	21,100	19,400
			1990	24,900	21,900	21,700	24,000	21,400
	Change	%		7.9	1.1	9.4	13.5	10.3
38	Ratio of female-to-male earnings	%	1989	65.8	70.8	76.2	66.2	62.3
			1990	67.6	73.0	80.0	72.1	65.8
Family income								
39	Average family income	\$	1989	50,100	39,600	38,700	43,100	40,700
			1990	51,600	40,800	39,700	44,400	42,400
40	Median family income	\$	1989	44,500	35,700	34,500	37,600	36,300
			1990	46,100	35,300	34,900	39,900	38,100
41	Average income of unattached individuals	\$	1989	21,100	19,000	14,400	17,700	17,200
			1990	22,600	19,200	17,700	20,000	18,400
42	Median income of unattached individuals	\$	1989	16,600	14,700	11,700	12,400	13,000
			1990	17,500	13,500	13,600	16,500	13,900
*43	Average family taxes	\$	1989	9,600	6,200	5,900	7,400	6,600
			1990	10,200	6,500	6,000	7,900	7,200
*44	Average family income after tax	\$	1989	40,400	33,500	32,800	35,700	34,000
			1990	41,400	34,300	33,700	36,500	35,200

See Notes and definitions at end of table.

Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
86.1	158.0	12.1	9.3	34.8	43.7	.5	1.1	1990	\$ million	32
88.1	160.5	12.3	9.6	36.9	46.2	.5	1.2	1991		
2.3	1.6	1.6	3.4	6.1	5.8	5.5	4.9		%	
31,800	36,200	28,500	27,300	33,000	34,200	..	..	1990	\$	33
33,500	38,000	29,900	28,100	34,700	35,800	..	..	1991		
5.4	5.1	4.8	2.7	5.1	4.6	..	..		%
27,000	29,600	24,000	22,900	28,000	29,100	..	..	1990	\$	34
26,500	29,800	23,900	22,300	27,800	29,900	..	..	1991		
-1.9	0.4	-0.3	-2.4	-0.7	-0.7	..	..		%
4.4	6.4	5.7	10.8	5.6	5.9	..	..	1989	%	35
4.5	5.4	5.3	8.7	5.9	4.9	..	..	1990		
34,000	37,400	31,600	27,900	34,400	35,600	..	..	1989	\$	36
35,500	39,300	30,900	28,300	36,000	39,700	..	..	1990		
4.5	5.1	-2.3	1.3	4.6	11.4	..	..		%
21,200	25,200	20,700	20,400	22,800	22,600	..	..	1989	\$	37
24,400	25,900	22,400	21,300	24,100	26,500	..	..	1990		
14.9	2.9	8.2	4.5	5.8	17.2	..	..		%
62.4	67.4	65.6	72.9	66.3	63.6	..	..	1989	%	38
68.5	66.0	72.5	75.4	67.0	66.8	..	..	1990		
44,900	57,300	46,600	43,000	49,700	49,400	..	..	1989	\$	39
47,200	57,000	47,200	44,200	52,000	54,400	..	..	1990		
40,200	50,500	41,300	38,100	44,900	46,000	..	..	1989	\$	40
42,000	50,900	42,900	38,400	47,200	49,200	..	..	1990		
18,300	24,100	19,200	18,700	20,900	22,300	..	..	1989	\$	41
20,300	24,800	20,200	19,800	23,800	23,900	..	..	1990		
13,700	20,400	14,900	14,100	16,600	18,600	..	..	1989	\$	42
14,500	19,800	15,800	15,300	19,200	19,000	..	..	1990		
8,900	11,400	8,600	7,700	9,200	9,300	..	..	1989	\$	43
9,600	11,500	8,500	8,100	9,900	10,900	..	..	1990		
36,000	45,900	38,000	35,300	40,500	40,100	..	..	1989	\$	44
37,500	45,500	38,700	36,100	42,100	43,600	..	..	1990		

See Notes and definitions at end of table.

Key labour and income facts

No.	Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
45	Proportion below the low income cut-off (1986 base):						
- families	%	1989 1990	11.1 12.1	12.9 14.3	9.9 10.2	12.7 12.0	12.3 12.7
- unattached individuals	%	1989 1990	34.4 34.1	34.9 38.9	37.1 31.9	38.1 27.6	38.3 34.6
- persons (population)	%	1989 1990	13.6 14.6	14.3 15.6	12.2 12.5	14.4 13.4	13.9 14.3
- children (less than 16 years)	%	1989 1990	15.0 17.4	17.9 19.9	13.9 13.9	16.3 16.8	16.7 17.4
- elderly (65 years and over)	%	1989 1990	21.4 19.3	16.3 16.2	16.7 16.2	18.6 13.0	14.8 13.9
Households and dwellings							
*46	Estimated number of households and dwellings						
	'000	1990 1991	9,624 9,873	173 177	45 47	318 326	247 251
47	Average household income						
	\$	1989 1990	43,800 45,300	37,500 38,400	34,300 35,000	37,700 39,800	36,800 38,200
48	Proportion of households with:						
- VCRs	%	1990 1991	66.3 68.6	67.6 67.8	62.2 59.6	66.7 67.8	64.0 66.5
- microwaves	%	1990 1991	68.2 73.5	56.6 65.0	57.8 63.8	67.9 72.4	66.8 72.5
- two or more automobiles	%	1990 1991	24.7 25.1	16.2 13.6	26.7 21.3	19.8 20.2	21.5 20.3
- vans and trucks	%	1990 1991	23.4 22.2	32.4 34.5	31.1 31.9	23.9 25.8	31.6 30.3
- air conditioners	%	1990 1991	24.4 26.7	-- --	-- --	3.5 3.7	5.7 6.4
49	Proportion of owner-occupied dwellings						
	%	1990 1991	63.7 63.7	79.2 78.5	71.1 70.2	72.0 71.8	75.3 76.5
50	Proportion of all owner-occupied dwellings that are mortgage free						
	%	1990 1991	51.1 51.3	70.8 71.2	59.4 60.6	57.6 56.8	58.1 56.2
51	Dwellings in need of repair as a proportion of all occupied dwellings						
	%	1990 1991	26.6 24.5	31.3 30.5	37.7 27.7	35.2 31.9	32.8 34.7
52	Median rent-to-income ratio						
	%	1990 1991	20 21	17 16	25 23	23 21	19 20

See Notes and definitions at end of table.

Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
										45
13.0	8.1	13.4	12.7	12.9	12.3	..	..	1989	%	
14.5	9.8	14.4	14.0	12.9	11.9	..	..	1990	%	
44.2	28.4	36.4	32.8	34.8	28.4	..	..	1989	%	
44.0	28.5	35.7	29.3	32.6	31.0	..	..	1990	%	
16.7	10.1	16.9	16.0	15.5	13.8	..	..	1989	%	
18.0	11.7	17.8	16.6	15.4	14.6	..	..	1990	%	
16.5	11.4	22.5	20.7	17.7	14.4	..	..	1989	%	
18.1	15.3	22.8	20.7	19.1	17.4	..	..	1990	%	
35.9	14.8	20.7	13.3	20.6	20.5	..	..	1989	%	
28.8	15.8	19.8	10.0	19.2	18.0	..	..	1990	%	
2,533	3,479	388	358	869	1,214	..	..	1990	'000	46
2,618	3,585	389	359	898	1,225	..	..	1991	'000	
39,200	50,600	40,000	37,100	43,800	41,800	..	..	1989	\$	47
40,500	50,600	40,500	38,200	46,200	47,100	..	..	1990	\$	
										48
63.2	69.0	63.1	60.6	71.6	64.0	..	..	1990	%	
64.9	71.0	66.3	64.3	72.6	68.8	..	..	1991	%	
65.5	68.2	68.3	74.9	76.9	68.3	..	..	1990	%	
70.6	73.8	75.1	78.6	80.2	74.0	..	..	1991	%	
21.6	26.5	22.2	25.1	29.7	26.7	..	..	1990	%	
21.4	27.4	26.0	23.1	28.8	27.5	..	..	1991	%	
13.8	20.5	29.1	37.2	37.7	32.3	..	..	1990	%	
12.8	18.2	27.0	40.9	38.3	30.7	..	..	1991	%	
13.3	44.9	43.8	32.1	6.9	6.1	..	..	1990	%	
15.2	48.0	45.0	32.3	10.1	8.5	..	..	1991	%	
55.2	65.6	67.8	70.7	65.8	64.2	..	..	1990	%	49
56.8	64.1	68.4	72.4	64.4	65.1	..	..	1991	%	
46.5	50.6	56.3	58.9	47.2	52.0	..	..	1990	%	50
47.5	50.2	55.3	63.1	48.8	52.0	..	..	1991	%	
24.2	26.2	28.9	31.3	30.0	23.9	..	..	1990	%	51
21.1	24.0	29.6	25.9	28.2	23.0	..	..	1991	%	
19	20	20	21	20	23	..	..	1990	%	52
20	22	21	22	21	24	..	..	1991	%	

See Notes and definitions at end of table.

Key labour and income facts

No.	Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
*53 Labour force income profile							
Number of taxfilers	'000	1990	18,450	372	86	606	496
Income:							
Number reporting	'000	1990	18,407	371	86	604	495
Amount	\$ million	1990	454,628	6,897	1,662	12,939	9,904
Median	\$	1990	19,100	13,800	15,400	16,500	15,300
Canadian index	%	1990	100.0	72.3	80.6	86.4	80.1
Labour force income:							
Number reporting	'000	1990	14,255	292	68	455	372
Amount	\$ million	1990	348,535	5,577	1,267	9,830	7,590
Employment income:							
Number reporting	'000	1990	14,028	279	67	445	363
Amount	\$ million	1990	336,320	4,769	1,122	9,236	6,944
Median	\$	1990	19,300	10,700	11,800	16,300	14,300
Canadian index	%	1990	100.0	55.4	61.1	84.5	74.1
Self-employment income:							
Number reporting	'000	1990	1,874	31	12	52	35
Amount	\$ million	1990	20,724	238	104	660	344
Unemployment Insurance benefits:							
Number reporting	'000	1990	3,044	144	28	134	131
Amount	\$ million	1990	12,215	809	145	594	646
Canadian index	%	1990	100.0	467.2	355.4	177.1	256.5
*54 Economic dependency profile							
Transfer payments:							
Amount	\$ million	1990	68,543	1,758	397	2,572	2,176
Employment income	\$ million	1990	336,320	4,769	1,122	9,236	6,944
Economic dependency ratio (EDR)	%	1990	20.38	36.87	35.41	27.85	31.34
Canadian index	%	1990	100.0	180.9	173.7	136.7	153.8
Unemployment Insurance benefits:							
Amount	\$ million	1990	12,215	809	145	594	646
Contribution to EDR	%	1990	3.63	16.96	12.9	6.43	9.31
Family Allowance benefits:							
Amount	\$ million	1990	2,577	63	14	87	74
Contribution to EDR	%	1990	0.77	1.32	1.22	0.94	1.06
Federal sales tax credits:							
Amount	\$ million	1990	1,708	47	9	64	56
Contribution to EDR	%	1990	0.51	0.98	0.85	0.69	0.81
Child Tax Credit benefits:							
Amount	\$ million	1990	2,128	65	14	80	72
Contribution to EDR	%	1990	0.63	1.37	1.26	0.86	1.04
Old Age Security benefits:							
Amount	\$ million	1990	9,921	166	50	343	269
Contribution to EDR	%	1990	2.95	3.47	4.48	3.72	3.88
CPP/QPP benefits:							
Amount	\$ million	1990	12,008	176	49	435	306
Contribution to EDR	%	1990	3.57	3.7	4.41	4.71	4.41
Other pension benefits:							
Amount	\$ million	1990	16,164	203	60	590	386
Contribution to EDR	%	1990	4.81	4.25	5.34	6.39	5.55

See Notes and definitions at end of table.

Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
4,693	6,888	757	642	1,660	2,202	18	30	1990	'000	53
4,681	6,873	756	640	1,656	2,198	18	30	1990	'000	
104,854	187,842	16,321	13,574	42,208	57,057	479	889	1990	\$ million	
17,400	21,400	16,800	16,300	19,500	20,000	22,800	21,600	1990	\$	
91.1	112.0	88.0	85.3	102.1	104.7	119.4	113.1	1990	%	
3,517	5,409	559	490	1,364	1,686	16	27	1990	'000	
81,426	144,240	11,878	9,602	33,255	42,637	426	807	1990	\$ million	
3,444	5,350	549	484	1,347	1,658	15	27	1990	'000	
77,460	141,121	11,515	9,315	32,440	41,208	404	785	1990	\$ million	
18,500	21,500	16,800	14,600	19,100	20,000	22,200	23,400	1990	\$	
95.9	111.4	87.0	75.6	99	103.6	115.0	121.2	1990	%	
340	675	101	137	239	248	2	2	1990	'000	
4,258	8,585	824	985	1,830	2,864	17	15	1990	\$ million	
942	889	103	82	221	360	4	5	1990	'000	
3,966	3,119	363	286	815	1,429	21	23	1990	\$ million	
141.0	60.9	86.8	84.6	69.1	95.6	146.6	80.2	1990	%	
17,488	25,075	2,979	2,401	5,003	8,576	46	71	1990	\$ million	54
77,460	141,121	11,515	9,315	32,440	41,208	404	785	1990	\$ million	
22.58	17.77	25.87	25.77	15.42	20.81	11.32	9.1	1990	%	
110.8	87.2	126.9	126.4	75.7	102.1	55.50	44.7	1990	%	
3,966	3,119	363	286	815	1,429	21	23	1990	\$ million	
5.12	2.21	3.15	3.07	2.51	3.47	5.32	2.91	1990	%	
633	913	111	110	267	295	3	8	1990	\$ million	
0.82	0.65	0.97	1.18	0.82	0.72	0.71	0.99	1990	%	
467	552	85	76	155	193	1	3	1990	\$ million	
0.60	0.39	0.74	0.81	0.48	0.47	0.35	0.37	1990	%	
555	647	111	116	226	232	2	8	1990	\$ million	
0.72	0.46	0.96	1.25	0.70	0.56	0.55	0.98	1990	%	
2,411	3,711	506	445	707	1,306	3	4	1990	\$ million	
3.11	2.63	4.4	4.78	2.18	3.17	0.72	0.54	1990	%	
2,835	4,824	523	454	849	1,549	4	4	1990	\$ million	
3.66	3.42	4.54	4.87	2.62	3.76	1.08	0.48	1990	%	
3,274	6,877	645	529	1,205	2,383	7	5	1990	\$ million	
4.23	4.87	5.6	5.68	3.72	5.78	1.63	0.67	1990	%	

See Notes and definitions at end of table.

Key labour and income facts

Notes and definitions

No.

- 1 Persons aged 15 and over who are employed or unemployed.
- 2 Labour force as a proportion of the population aged 15 and over.
- 4 Persons who usually work less than 30 hours per week.
- 7 Unemployed as a proportion of the labour force.
- 8 This rate, and rates shown as Indicators 9 and 10, are described in *The labour force* (Monthly, Catalogue 71-001), February 1987.
- 9 The full-time labour force includes persons working full time, those working part time involuntarily and unemployed persons seeking full-time work.

The part-time labour force includes persons working part time voluntarily and unemployed persons seeking part-time work.

On the margins of the labour force includes persons not looking for work because they believe none is available or because they are waiting for recall or for replies from employers.

- 10 The rate shows hours lost through unemployment (unemployed multiplied by average actual weekly hours) and through underemployment (that is, short-time work schedules and involuntary part-time employment) as a proportion of hours worked plus hours lost.

No.

- 29 Data are for agreements involving bargaining units of 500 or more employees. Canada figures include workers covered by federal labour legislation plus agreements involving workers in more than one province.
- 32 Labour income comprises gross wages and salaries (including directors' fees, bonuses, commissions, gratuities, taxable allowances and retroactive pay) and supplementary labour income (payments made by employers for the benefit of employees, including contributions to health and welfare schemes, pension plans, Workers' Compensation and Unemployment Insurance).
- 33 Labour income per employee is calculated using LFS estimates of paid workers excluding those absent the entire reference week without pay.
- 45 For an explanation of the methodology underlying the low income cut-offs, see *Income distributions by size in Canada* (Annual, Catalogue 13-207).
- 53-54 Data are derived from tax returns filed in the spring of the year following the reference year. The mailing address at the time of filing determines the province.

In the works

Here are some of the topics to be featured in upcoming issues of Perspectives on labour and income.

■ Job-related moves

Every year, a substantial number of workers change their residence for labour market reasons. This article profiles the people who made such moves in 1987. It also describes their origins and destinations, and compares their pre- and post-move employment status and earnings.

■ Employer-sponsored pension plans

The chances of being covered by an employer-sponsored pension plan depend on a variety of job-related factors. This article looks at structural and other changes in the Canadian labour market that seem to be reducing the pension plan coverage of Canadian workers.

■ Registered retirement savings plans (RRSPs)

This note shows that only one-quarter of RRSP payments is paid out in the form of annuities. The rest is withdrawn directly as lump-sum payments. The analysis will focus on those benefitting from these plans and the relative importance of RRSP income to other income sources.

■ Job tenure of paid workers

A study on the evolution of average job tenure during the 1977 to 1991 period, and general trends by industry and length of job tenure.

■ Alternative unemployment measures

In addition to the official unemployment rate, Statistics Canada calculates a number of other rates based on alternative concepts. These rates are analysed on a quarterly basis for the recent recession.

■ Preparing for retirement

This article looks at the way working Canadians aged 45 to 64 are preparing financially for retirement. It examines their asset position as well as some of their basic labour market characteristics.

■ The tourism industry – a labour market profile

The study discusses the difficulties in defining this industry and examines recent trends.

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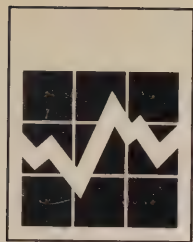
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Hubert Frenken

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The increase in the number of women receiving bachelor's degrees in fields of study that have traditionally been pursued by men is examined.

20 Staying put: Job tenure among paid workers

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27 Employer-sponsored pension plans – who is covered?

Hubert Frenken and Karen Maser

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Symbols

The following standard symbols are used in Statistics Canada publications:

- .. figures not available
- ... figures not appropriate or not applicable
- nil or zero
- amount too small to be expressed
- p preliminary figures
- r revised figures
- x confidential to meet secrecy requirements of the Statistics Act

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Forum

From the editor

■ The way we see it, our mission at *Perspectives* is to sift through Statistics Canada's data holdings, derive the information that is relevant to our readers, and communicate those findings in cogent, accessible articles. Given the enormous variety of topics available to explore, and the numerous ways to dissect them, the scope of what we can publish in *Perspectives* is vast. From the point of view of our readers, we can choose well or we can choose poorly. Not knowing which we do more frequently is a source of frustration and concern.

We monitor as best we can how well we are doing, by following press coverage (assuming that the media represent their readers and by extension ours), and keeping an eye open for references to *Perspectives* in other publications (showing that people find it useful). Unfortunately, these are indirect, incomplete and inadequate means of assessing the quality of the choices we make when putting together an issue of *Perspectives*.

Two years ago, we conducted a formal readership survey. We hesitate to repeat it because it was an expensive and time-consuming procedure that distracted us from the principal task of producing *Perspectives*. The people who designed the survey, conducted the interviews and tabulated the results are the same people who write and edit the articles. Yet to feel

confident that we are doing well requires direct feedback from you, the reader.

To circumvent the difficulties of a full-fledged readership survey, yet obtain similar results, we are trying a new approach. In the last issue, we inserted a reader questionnaire as an experiment; with this issue, the questionnaire becomes a regular feature. A one-page survey is a cost-effective alternative to a full-scale readership survey, and should yield important information about your likes, dislikes and subject matter preferences. You will find it in the centre of the journal – we ask you to complete it and send it back to us.

When you fill out the questionnaire, please remember to include your opinions about the regular departments. "Key labour and income facts," for instance, can easily be overlooked given its home at the back of the journal. "Key labour" is a unique statistical compendium of over 50 labour market indicators at the Canada and province level. And please don't forget "What's new?", which carries reviews of recently released studies, and covers special survey results.

In this issue, two articles deserve a special mention since they are somewhat out of the ordinary. In "Job-related moves," authors Mary Sue Devereaux and Georges Lemaitre offer a glimpse into migration for reasons of employment. Using information that is not easily accessible, they quantify the extent to which people relocate – whether across town or across the country – because their job demands it, or they have found a new job, or they are looking for a job.

Sometimes articles take us by surprise, and Hubert Frenken's is an example of the obvious having the quality of the unexpected. Don't most people generally think of RRSPs in terms of contributions? (*Perspectives* is just as guilty as everyone else of perpetuating this point of view.) However, "RRSPs – not just for retirement" points out that funds drawn from RRSPs are an immediate and pressing reality for the 800,000 Canadians who withdrew \$4 billion from their RRSP plans in 1990.

If you have ideas for future articles, let us know – there's room for them on the reader questionnaire. *Perspectives'* most important contributors are our readers: we encourage your suggestions.

Ian Macredie
Editor-in-Chief



We welcome your views on articles and other items that have appeared in *Perspectives on labour and income*. Additional insights on the data are also welcome, but to be considered for publication, communications should be factual and analytical. We encourage readers to inform us about their current research projects, new publications, data sources and upcoming events relating to labour and income.

Statistics Canada reserves the right to select and edit items for publication. Correspondence, in either official language, should be addressed to: Susan Crompton, Forum and What's new? Editor, *Perspectives on labour and income*, 5-A Jean Talon Building, Statistics Canada, Ottawa, K1A 0T6. Telephone (613) 951-0178; fax (613) 951-4179.

Highlights

Here are some key findings from the articles in this issue of Perspectives on labour and income.

RRSPs – not just for retirement

■ In 1990, nearly 800,000 Canadians reported \$4 billion in RRSP income. Of this total, 40% was reported by taxfilers under 55 years of age – virtually all as cash withdrawals. An additional 22% was paid to individuals aged 55 to 64. Their \$6,650 average benefit was higher than that of any other age group and more than 90% represented cash withdrawals.

■ The rate of growth in total RRSP income from 1989 to 1990 was comparable to that from 1988 to 1989 (approximately 14%). However, there may be greater growth from 1990 to 1991 as a result of job losses and other financial difficulties encountered during the recent recession.

■ Not only were RRSP beneficiaries able to draw on their RRSP savings, they also had higher average incomes from other investments and from employer-sponsored pension plans. Non-beneficiaries, on the other hand, had to depend more on universal Old Age Security benefits and on such miscellaneous income sources as tax credits, grants and Guaranteed Income Supplement payments.

■ Taking these factors together in 1990, people in the 65 and over age group who reported RRSP income on their tax returns had an average aggregate income of \$36,200, while their counterparts without RRSP benefits showed an average total income of just \$20,400.

A degree of change

■ Over the last decade and a half, the increase in the number of bachelor's degrees awarded by Canadian universities can be largely attributed to the increase in the number of degrees awarded to women. Between 1975 and 1990, the annual number of bachelor's degrees granted to women rose by 71% compared with only 8% for men. The result is that by 1990 a majority of bachelor's degrees (56%) were being awarded to women, in marked contrast to the situation in 1975 when women received only 44% of these degrees.

■ In 1975, 18 disciplines were male-dominated, that is, women were markedly under-represented among bachelor's degree graduates in these disciplines. By 1990, the influx of women into non-traditional fields of study had reduced this number to 12; the most significant inroads were made in veterinary medicine (63% of graduates were women), zoology (54%), law (47%), medicine (46%), and business, management and commerce (46%).

■ Between 1975 and 1990, women's representation rose in all male-dominated disciplines except computer science, where the proportion of female graduates dropped from 22% to 20%.

■ In 1990, the representation of women among graduates was lowest in engineering (12%), physics (15%), and forestry (17%).

Staying put: Job tenure among paid workers

■ From 1977 to 1991, the average length of time that paid workers had been with their employers increased by 10%, from 6.9 to 7.6 years. This increase, however, was more pronounced among women, whose average tenure increased by 26% (5.1 to 6.5 years), than among men (up 7%, from 8.1 to 8.6 years).

■ For the entire period, the average tenure of workers in the goods-producing sector was greater than that of workers in the service sector. This results from the high tenure of the many workers in manufacturing industries.

■ In almost all industries full-time workers stayed with the same employer longer, on average, than part-time workers. Only in the highly seasonal industries of agriculture and construction was the tenure of part-time workers greater than that of full-time workers.

■ In 1977, men were concentrated in the long tenure (over 5 years) category (47%), while women were found mainly in the intermediate (1 to 5 years) category (40%). By 1991, the distribution of women by tenure was similar to that of men, the highest proportion having long tenure (42% and 50% respectively).

Employer-sponsored pension plans – who is covered?

■ Almost 49% of paid workers aged 20 and older were covered by registered employer-sponsored pension plans (RPPs) in 1989. However, coverage in the public sector was 73%, compared with just 39% in the private sector.

■ Pension plan coverage rates vary significantly by industry. With the exception of agriculture (with a rate of under 10%), the lowest rates were in business, personal and other services (20%) and in trade (29%).

■ Smaller firms are much less likely than larger ones to provide RPPs. Fewer than 15% of paid workers in firms with less than 20 employees were pension plan members, while 72% of those in firms employing 500 or more workers participated in plans.

■ The pension plan coverage rate for workers in full-time jobs was 53% in 1989. Part-time employees, however, had a coverage rate of only 24%.

Alternative measures of unemployment

■ The official unemployment rate is one of the most widely publicized statistics in the country. But because one figure cannot adequately reflect all aspects of unemployment, Statistics Canada regularly publishes a series of eight supplementary unemployment measures. This study describes them and shows how they were affected by the recent recession.

■ Two measures focus on groups for whom unemployment may present a particular economic hardship: the long-term unemployment rate (14 weeks or more) and the

rate for family heads with children under 16 years. These rates were estimated at 5.8% and 9.3%, respectively, in the second quarter of 1992, compared with 11.2% for the official rate.

■ Aspects of "hidden" unemployment and the visible underutilization of labour are incorporated in two other measures: the rate that includes discouraged workers, and the full-time unemployment rate, which takes involuntary part-time workers into account. At 12.1% and 13.7%, respectively, in the second quarter of 1992, both exceeded the official rate.

■ In another measure, the innovation lies in the fact that it shows unutilized hours as a percentage of total hours available to the labour market. This is in contrast to all of the other measures which are calculated as "head counts," that is, they are based on the number of persons involved. Always well above the official measure, this one stood at 14.3% in the second quarter of 1992.

Job-related moves

■ In 1987, more than 200,000 Canadians changed their residence for reasons related to employment. Over half accepted a new job in a different location. Almost one-quarter moved hoping to find work, while the remainder were transferred by their employers.

■ Men were more likely than women to relocate, although for both sexes, moves were more common among younger people. Workers with at least some postsecondary education were also more likely to move. And single people tended to be more mobile than those with family responsibilities.

■ Most labour market-related moves occurred within the same region (for example, the Atlantic region). In 1987, just over a quarter of all job-related moves took people from one region to another.

■ For most people, job-related moves brought increased earnings. Post-move earnings, however, varied with the reason underlying the move. The greatest gains were made by those who moved to accept a new job. Being transferred had the least effect on earnings.

What's new?

■ The Survey of Employment, Payrolls and Hours (SEPH) now calculates diffusion indexes for its most important data series: employment, average weekly earnings, average hourly earnings and average weekly hours.

■ In 1991, over one in five students aged 18 to 20 left school before graduation because they preferred work to classes; another one in five left because they were bored. The first of two reports analyzing the results of the Survey of School Leavers focuses mainly on the experiences of drop-outs.

■ Three new family profiles are now available, based on the Small Area and Administrative Data Division's (SAADD) updated and expanded small area family database. The series presents income and demographic characteristics of individuals, husband-wife families and lone-parent families for areas as small as urban FSAs (Forward Sortation Areas, the first three characters of the postal code), rural postal code regions and postal walks.

■ Results of the 1989-90 Labour Market Activity Survey (LMAS) are published in four reports presenting data on men, women, youths (16 to 24 year-olds) and older workers (55 to 64).

■ The Canadian Labour Market and Productivity Centre (CLMPC) builds consensus between business and labour on their policies and practices and on public policy issues. The Centre describes its activities and releases its research findings in four regular publications: the *Quarterly review*, *Working together*, *The labour research exchange*, and *The Canadian business bulletin*.

■ The new *Report on the demographic situation in Canada* shows how increased life expectancy and controlled fertility are linked to the increase in women's labour

market participation. It also analyzes current population trends with a focus on lone parents, living alone, and abortion.

■ Results of the National Child Care Survey reveal that fewer than one-third of both parents in dual-earner families have "standard" weekday, daytime jobs. The complete findings on work schedules and child care needs are presented in *Parental work patterns and child care needs*, the second report based on the 1988 survey.

■ A recent report from the Institut de recherche et d'information sur la rémunération (IRIR) concludes that, overall, public sector wages and salaries in Quebec are equivalent to those in the private sector. The analysis examines total pay and benefits, and focuses on changes between 1990 and 1991. □

RRSPs – not just for retirement

Hubert Frenken

Registered retirement savings plans (RRSPs) have existed for 35 years. And every year, their tax-assistance and retirement savings opportunities are at the centre of much publicity. The response to these opportunities has been dramatic, especially in recent years. Contributions for the 1987 to 1990 period amounted to a staggering \$49 billion. It would seem logical then that, after such a long time and with so much money deposited, these plans would be generating sizeable retirement benefits.

At first glance, income tax data seem to support this theory. In 1990, nearly 800,000 Canadians reported \$4 billion in RRSP income on their tax returns, up 29% from 1988 (the earliest year these data are available). What is surprising, however, is that almost two-thirds of this \$4 billion was received by persons under age 65. It seems obvious then, that a large share of RRSP holdings are paid out long before the beneficiaries have reached – what traditionally is regarded as – the normal retirement age.

Extensive cash withdrawals

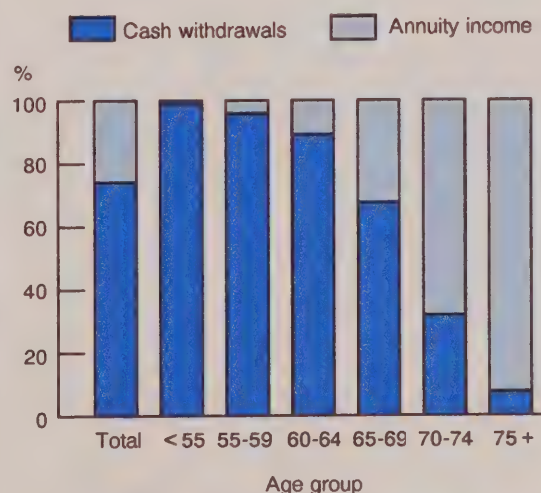
RRSP savings can be either received in cash, converted to an annuity or transferred to a registered retirement income fund (RRIF).

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This study examines the first two types of benefits. RRIF payments are not identifiable from the Revenue Canada data, but were comparatively small in 1990 (see *How RRSP income is reported*). The relative freedom to cash in RRSP deposits any time¹ is reflected in the proportion of payments that are cash withdrawals, rather than annuities. According to 1990 Revenue Canada taxation statistics, three out of every four dollars paid from RRSP savings that

Chart A

Three out of every four dollars in RRSP benefits were cash withdrawals in 1990.



Source: Revenue Canada, Taxation

How RRSP income is reported

Since 1988, taxfilers have been reporting RRSP income (either cash withdrawals or annuity payments) as a separate item on their tax returns. This permits such income to be identified on the T1 tax file of the Small Area and Administrative Data Division of Statistics Canada. These data are supplemented with information from Revenue Canada's taxation statistics sample file, which separates this income into two categories: cash withdrawals and annuity payments.

RRIF benefits are excluded from this analysis because they cannot be identified. They must be reported as "other pensions or superannuation" or "other income," depending on the age of the taxfiler. It would appear, however, that in 1990 these payments were much smaller than annuity benefits. Until recently, RRIFs were considerably less popular than annuities. They had a rigid payout schedule and had to be exhausted during the year the beneficiary turned 90. With annuities, however, various payment schedules were available and

beneficiaries were not required to receive full payout by age 90.

Data obtained from Canadian life and health insurance companies seem to support this hypothesis. As recently as 1988, these companies reported having issued fewer than 16,000 RRIF certificates to clients (CLHIA, 1991). That number grew dramatically in 1989 and 1990, partially as a result of some relaxation of payment rules. Since RRIFs have only recently started to challenge annuities as a form of RRSP benefit payment, it can be assumed that 1990 RRIF benefits were still only a fraction of the payments generated by RRSP annuities.

The T1 tax file and the accompanying T1 family file permit more extensive analysis than this article presents. These files have been described in earlier issues of *Perspectives on labour and income* (Frenken, 1991 and Galarneau, 1992). For further information and more current data, contact the Small Area and Administrative Data Division, Statistics Canada, 14th Floor R.H. Coats Building, Tunney's Pasture, Ottawa, Ontario, K1A 0T6; telephone (613) 951-9720.

year were cash withdrawals. Almost all taxfilers under 65 years of age with RRSP benefits (97%) received their RRSP income in this form, while one-third of those aged 65 and older received all or part of their benefits in this manner.

It must be remembered that cash withdrawals are reported on income tax returns in the year they are made, while the conversions of RRSP deposits into annuity benefits are not reported in this immediate manner. (Only the income received from such annuities is reported in the year it is received.)² Nevertheless, it is obvious that the practice of cashing in RRSP savings is widespread, even among those approaching retirement.

In 1990, \$1.6 billion or 40% of total RRSP income was reported by taxfilers under 55 years of age – virtually all as cash withdrawals. An additional 22% was paid to individuals aged 55 to 64 (Table 1). Their \$6,650 average benefit was higher than that of any other age group and more than 90% represented cash withdrawals.

Why are such large withdrawals made? An earlier study has shown that it is

usually high-income persons who report RRSP contributions on their income tax returns (Frenken, 1990 and 1991). These contributors may liquidate their savings either from necessity (such as job loss), to meet an unusual financial obligation (to assist in purchasing a home or to pay off a mortgage, for example), or simply for enjoyment (possibly travel or early retirement).

Those in the 55 to 64 age group would, in general, have been able to accumulate greater savings than younger individuals. While some may have been forced into early retirement for a number of reasons, others may have elected to draw on RRSP funds before becoming entitled to Old Age Security (payable at age 65).

The rate of growth in total RRSP income from 1989 to 1990 was comparable to that from 1988 to 1989 (approximately 14%). However, there may be greater growth from 1990 to 1991 as a result of job losses and other financial difficulties encountered during the recent recession.³ As well, withdrawals may have increased further in 1992, as a consequence of the Home Buyers'

Table 1
RRSP beneficiaries and benefits by age, 1990

	Beneficiaries			Benefits		
	Number	Distribution	Proportion of taxfilers	Amount	Distribution	Average
	'000		%	\$ millions	%	\$
Total	792	100	4	3,976	100	5,020
Under 65 years	496	63	3	2,498	63	5,040
Under 35 years	137	17	2	413	10	3,010
35-44 years	135	17	3	644	16	4,780
45-54 years	89	11	3	546	14	6,130
55-64 years	134	17	7	894	22	6,650
65 years and over	296	37	12	1,478	37	4,990
65-69 years	119	15	13	669	17	5,600
70-74 years	98	12	15	478	12	4,900
75 years and over	79	10	8	331	8	4,180

Source: Small Area and Administrative Data Division

Plan, introduced by the Minister of Finance in the February 25, 1992 budget. This plan permits individuals to withdraw up to \$20,000 from RRSP savings before March 2, 1993 without withholding of tax. The funds must be used to finance the purchase or construction of a home and amounts withdrawn must be repaid to the home buyer's RRSP in instalments within 15 years. (Data for 1991 and 1992 were not yet

available at the time this article was prepared.)

Seniors with RRSPs have higher incomes

High-income individuals are generally in a better position to contribute to RRSPs and to make other types of investments. Also, members of employer-sponsored pension

Legislation

The *Income Tax Act* and its accompanying regulations spell out how RRSP benefits can be paid. Total savings must be converted into annuity income or registered retirement income funds (RRIFs) before the end of the year in which the beneficiary reaches age 71.

The most common form of annuity purchased with RRSP funds is "a straight life annuity" (Coward, 1991), which provides the beneficiary with a monthly benefit for life. Payments depend on the life expectancy of the beneficiary and the interest rate offered at the time of purchase. The issuer of the annuity assumes the risk and guarantees the benefits promised. RRIFs provide monthly payments that depend to some extent on the rate of return on the investments held in the fund. The beneficiary controls the investments and assumes the risk associated with this.

While the conversion to annuity and RRIF benefits provides opportunities for tax-deferral, lump-sum withdrawals require that federal tax be withheld immediately, at the following rates (Revenue Canada, Taxation, 1983):

Amount withdrawn	Proportion withheld	
	Quebec*	Elsewhere in Canada
	%	
Less than \$5,000	5	10
Between \$5,000 and \$15,000	10	20
More than \$15,000	15	30

* The Quebec government requires the withholding of additional taxes.

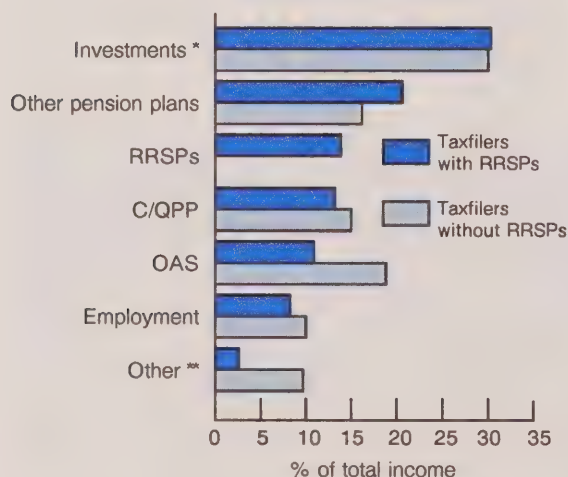
plans are much more likely to contribute to RRSPs than those who are not members (Frenken, 1990). These facts are reflected in the tax returns of filers aged 65 and older.

In 1990, the 296,000 in this age group who reported RRSP income (12% of them) had an average aggregate income of \$36,200, while their counterparts without RRSP benefits showed an average total income of just \$20,400 (a difference of \$15,800).

This difference was only partially accounted for by RRSP benefits, however, since the average income reported from RRSPs was only \$5,000. RRSP beneficiaries, in general, also received higher income from other investments and from employer-sponsored pension plans than non-beneficiaries (Chart B). Their investment income (including interest, dividends and rental income, but excluding capital gains)

Chart B

In 1990, taxfilers aged 65 and over with RRSP income depended less on OAS and various supplements.



Source: Small Area and Administrative Data Division

* Includes interest, dividends and rental income, but excludes capital gains.

** Includes various tax credits, most non-taxable transfer payments, and miscellaneous income.

averaged \$11,000, while those without RRSP benefits received on average only \$6,100 from these sources. Similarly, average pension income amounted to \$7,500 for RRSP recipients versus \$3,300 for those without RRSP income.

Non-beneficiaries had to depend more on universal Old Age Security (OAS) benefits and various miscellaneous income sources in 1990. OAS benefits represented 19% of their total income, but only 11% of the income of RRSP beneficiaries. Also, miscellaneous income, which includes various tax credits, grants and non-taxable support payments such as Guaranteed Income Supplement benefits, represented 10% of the total income of taxfilers without RRSP benefits, but only 3% of that of RRSP beneficiaries.⁴

Summary

In 1990, nearly 800,000 taxfilers reported \$4 billion in income from RRSPs. Even though the prime objective of these tax-assisted savings is to provide retirement income, large amounts are cashed in each year by persons under age 65. In 1990, \$1.6 billion (40%) was paid to persons under 55 years of age and another \$900,000 (22%) to those aged 55 to 64. Almost all of these benefits were cash withdrawals.

About \$1.5 billion in RRSP benefits was reported by 300,000 taxfilers aged 65 and older in 1990. These individuals had an average total income of \$36,200, compared with just \$20,400 for those without RRSP benefits. Not only were they able to draw on their RRSP savings, but they also had a higher average income from other investments and from employer-sponsored pension plans.

It is uncertain what impact the introduction of the Home Buyers' Plan in February 1992 will have on RRSPs. Any large-scale response to this opportunity to make tax-exempted withdrawals of up to

\$20,000 per person may affect future RRSP benefits, even if repayments are made when required. □

The author wishes to thank Mahmood Mohiuddin, Director, Pensions and Life Insurance Benefits, Canadian Life and Health Insurance Association Inc., and Diane Coates and John O'Meara, Registered Plans Division, Revenue Canada, Taxation, for their valuable comments and suggestions in reviewing this article.

Notes

¹ With few exceptions, RRSP contributions are not locked in, as is the case with a growing share of employer-sponsored pension plan accruals. Under the regulatory legislation implemented by the governments of Canada and of most provinces, members of pension plans, when terminating employment after two years of membership (five years of service in some provinces), cannot cash in benefits accrued after the effective date of the applicable legislation (January 1, 1988 in Ontario, for example). These benefits are locked in and accessible only at retirement. They may be transferred to a locked-in RRSP or similar non-accessible fund, in which case the financial institution or "issuer" is obligated to hold the deposits until the designated retirement age.

Some employers who sponsor group RRSPs may require that employees leave contributions in the plan for a certain period of time before withdrawing them. In general, however, RRSPs have no restrictions on withdrawals and cashing in prior to retirement.

² The total annuity values are amortized over a period of years, resulting in comparatively low monthly or annual disbursements. For example, converting \$30,000 of RRSP savings into an annuity might yield an annual

benefit of \$3,000 (depending on the age of the beneficiary and rate of interest) and this would result in the reporting of only \$3,000 in RRSP income annually. However, receiving the \$30,000 as one cash sum would require reporting the full amount in the year received.

³ Contributions to RRSPs declined dramatically during the first two months of 1991 from the amounts deposited in January and February 1990, resulting in a drop of 16% in total contributions from 1989 to 1990. (The bulk of each year's contributions is made in the first two months of the subsequent year.) The economic uncertainty in early 1991 may not only have curbed the volume of contributions, but it may also have increased cash withdrawals that year.

⁴ These differences would be even more pronounced if the analysis included non-taxfilers. In 1990, 16% of the population aged 65 and older did not file a tax return, presumably because they did not have a tax liability. However, nearly all would have received Old Age Security benefits and many full or partial Guaranteed Income Supplement and provincial Guaranteed Annual Income payments.

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A degree of change

Cameron W. Stout

Over the past decade and a half, the number of women attending Canadian universities has risen substantially. This trend has been particularly evident at the undergraduate level where the increase of women has far outpaced growth in the number of men. As a result, in 1990, women received 56% of all bachelor's degrees¹ granted by these institutions, up from 44% in 1975.

An important feature of this growth has been women's entry into fields of study that have traditionally been the domain of men. By the beginning of the 1990s, the proportion of women among the graduates of certain disciplines had risen to the point where these fields could no longer be considered male-dominated.

This article explores the extent to which women's representation has increased among bachelor's degree graduates in male-dominated disciplines since the mid-1970s. It also examines how these shifts occurred. In some disciplines, the number of female graduates grew faster than the number of male graduates; in others, there was an increase in the number of women but a decline in the number of men.

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Defining male-dominated disciplines

Some fields of study – education and nursing, for example – have long been associated with women, while others, such as engineering and physics, have been somewhat unusual choices for female students. For analytical purposes, however, a statistical measure of women's representation in the various disciplines is needed.

Generally, women are "under-represented" in disciplines where the percentage of female graduates is less than the overall proportion of bachelor's degrees awarded to women. For instance, if women comprised 30% of all bachelor's degree recipients, they would be under-represented in a discipline with 15% female graduates. On the other hand, in a discipline with 45% female graduates, women would be "over-represented."

These proportions can be expressed as "coefficients of representation." A coefficient of 1.00 means that the sex composition of a discipline's graduates is the same as that of all bachelor's degree graduates. A coefficient less than 1.00 indicates a discipline in which women are under-represented; a coefficient greater than 1.00 denotes a discipline in which women are over-represented. In the example above, the discipline with 15% female graduates would have a coefficient of 0.50 (15 divided by 30), while the discipline with 45% women would have a coefficient of 1.50 (45 divided by 30).

Data source

The Education, Culture and Tourism Division of Statistics Canada obtains graduation information from the administrative records of Canadian degree-granting institutions. The University Student Information System (USIS) database is created from these records.

Information is collected on qualification counts for the calendar year ending in December. Graduation data refer to the number of degrees, diplomas and certificates awarded, not the individual students who receive them. For instance, the same student may receive more than one degree in the same year. However, this is uncommon, so the difference between the number of degrees and the number of graduates is negligible.

To highlight disciplines that are unusual choices for women, fields of study have been arbitrarily defined as male-dominated, neutral, or female-dominated on the basis of their coefficients in 1975. Disciplines with a coefficient value less than 0.75 that year are designated "male-dominated." Those with values from 0.75 to 1.24 are in the "neutral" zone and are considered neither male- nor female-dominated. A coefficient of 1.25 or more indicates a "female-dominated" discipline.

By using coefficients, it is possible to trace changes in women's representation in specific disciplines over a period when there was an overall increase in the proportion of women among bachelor's degree graduates.

Trends over 15 years

Since the mid-1970s, Canada's universities have granted bachelor's degrees to an increasing number of students. From 1975 to 1990, the annual number of graduates rose 36% from approximately 81,000 to almost 110,000. Most of this growth can be attributed to women, whose ranks increased 71%, compared with an 8% gain for men. By 1990, 55.7% of all bachelor's degree graduates were women, compared with 44.4% in 1975 (Table 1).

This increase in women's share of bachelor's degrees was not evenly distributed throughout the various fields. During the period studied, women's educational choices shifted towards areas that have traditionally been male-dominated.

Discipline shifts

In 1975, 18 disciplines were male-dominated; by 1990, the influx of women into non-traditional fields of study had reduced the number of male-dominated disciplines to 12 (Chart A).²

For example, in 1975, women comprised 13.3% of commerce graduates; hence, their coefficient of representation was 0.30 (13.3 divided by 44.4). By 1990, 45.8% of commerce graduates were women, and the coefficient had increased to 0.82 (45.8 divided by 55.7). As a result, this once male-dominated discipline entered the neutral range.

The greatest change was in veterinary medicine, where the increase of female graduates was so large that their coefficient of representation rose from 0.47 in 1975 to 1.13 in 1990.

Increases of female graduates in several other disciplines also moved these fields out of the male-dominated category into the neutral zone. In addition to veterinary medicine and commerce, this was the case for zoology, law, medicine, and political science.

While some other disciplines remained male-dominated, an increasing proportion of female graduates means that they are approaching the neutral zone. By 1990, the coefficient of representation for women among agriculture graduates was 0.74, and among those receiving degrees in mathematics, 0.71. Coefficients were also relatively high in geography (0.68), chemistry (0.66), and dentistry (0.64).

Table 1
Female representation among bachelor's degree graduates, 1975 and 1990

	Graduates		Proportion of women	
	1975	1990	1975	1990
	Number		%	
All graduates	80,754	109,812	44.4	55.7
Total male-dominated disciplines*	25,921	44,926	16.8	36.1
Veterinary medicine	200	287	21.0	63.1
Zoology	496	329	28.2	54.1
Law	2,670	3,362	20.8	47.2
Medicine	2,011	2,290	23.9	45.9
Business, management and commerce	5,328	13,819	13.3	45.8
Political science	1,581	3,637	25.4	43.7
Agriculture	533	646	22.0	41.3
Mathematics	1,554	2,064	30.8	39.7
Geography	1,955	1,744	28.0	37.7
Chemistry	746	987	19.3	36.7
Dentistry	456	495	9.6	35.8
Architecture	475	547	10.7	32.5
Economics	1,835	4,202	16.6	32.5
Geology	531	374	8.5	25.9
Computer science	799	2,194	21.9	19.8
Forestry	256	243	1.6	16.5
Physics	417	650	8.9	15.1
Engineering	4,078	7,056	1.8	11.7
Other disciplines	54,833	64,886	57.4	69.1

Source: University Student Information System database, Education, Culture and Tourism Division

* As defined in 1975.

Several other disciplines – engineering, physics, forestry, and computer science – were still male-dominated in 1990. These imbalances persisted despite substantial increases in the number of female graduates. Women's representation in these fields had been so low in 1975 that a doubling, tripling, or even tenfold increase in their numbers still left them under-represented among graduates. Computer science, in fact, actually became more male-dominated.

Patterns of change

Although women's representation rose in all but one male-dominated discipline (computer science), the pattern of change

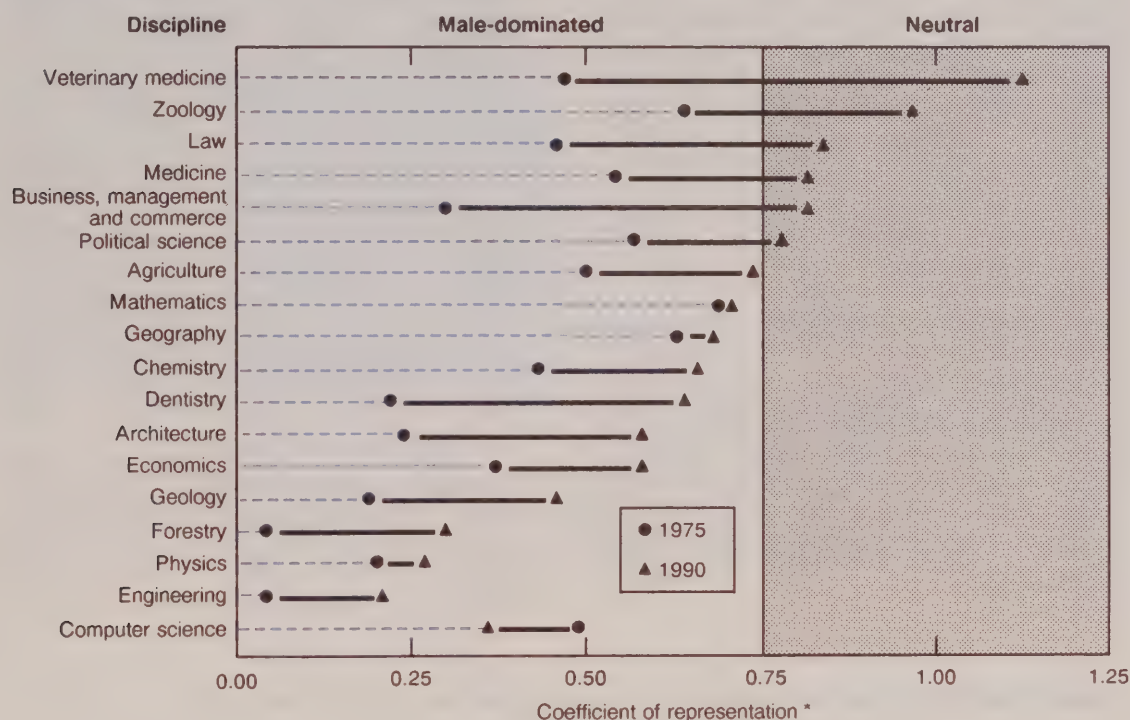
between 1975 and 1990 varied in different fields of study.

In some cases, the upturn in the proportion of female graduates was caused by a large increase in the number of women, combined with a smaller increase of men. This was the pattern in chemistry, commerce, economics, engineering, mathematics, physics, and political science.

In other disciplines, the larger share of female graduates was attributable to a rising number of women and a decreasing number of men. Between 1975 and 1990, the increase of women in agriculture, architecture, dentistry, law, medicine, and veterinary medicine was such that the total number of graduates grew despite declines in the number of men.³ By contrast, in

Chart A

By 1990, the number of male-dominated disciplines had been reduced by one-third.



Source: University Student Information System database, Education, Culture and Tourism Division

* See explanation in text.

forestry, geography, geology, and zoology, the increasing number of women earning degrees was insufficient to offset the decreasing number of men. Consequently, by 1990, these four disciplines produced fewer graduates than in 1975, although a higher percentage of them were women.

Computer science was the only male-dominated discipline in which the proportion of female graduates dropped between 1975 and 1990. While the number of women graduating from this discipline increased during the period, the number of male graduates rose at a faster pace.

Distribution of graduates

Women's entry into male-dominated fields of study has altered the overall distribution of female graduates among disciplines. While the majority of women still earn degrees in areas that have long been traditional choices, the proportion graduating from male-dominated fields has more than doubled. By 1990, the 18 male-dominated disciplines accounted for 27% of all female bachelor's degree graduates, up from 12% in 1975.

The most notable change was in commerce, which accounted for 10% of female graduates in 1990, compared with just 2% in 1975. And while relatively small shares (fewer than 3%) of female degree recipients graduated from any of the other male-dominated areas in 1990, in many cases, the proportions had at least doubled since 1975. Such increases occurred in architecture, dentistry, economics, engineering, forestry, geology, physics, political science, and veterinary medicine.

Top fields for women

From 1975 to 1990, there was also some change in the disciplines that attracted the largest proportions of women. Education ranked first in both years, although the percentage of all female graduates obtaining degrees in this field dropped from 27% to 19% (Table 2).

Rising female representation at master's and doctoral levels

Unlike their undergraduate counterparts, women are still a minority in graduate programs. In 1990, 47% of master's and 32% of doctoral degrees were awarded to women. These proportions, however, were up from 28% and 16%, respectively, in 1975.

Women constitute a particularly small minority of graduate degree recipients in male-dominated disciplines. Nonetheless, since the mid-1970s, there has been a rise in the percentage of women among master's and doctoral degree graduates in such fields. In 1990, women earned 13% of master's and 6% of doctoral degrees in engineering, up from 4% at both levels in 1975. Similarly, by 1990, 12% of master's and 9% of doctoral graduates in physics were women, whereas in 1975, the corresponding figures had been 7% and 4%.

Commerce, with 10% of female graduates in 1990, had risen to second place. It was the only male-dominated discipline to rank in the top 10 fields of study for women in 1990.

Table 2

Female bachelor's degree graduates, by top 10 disciplines, 1975 and 1990

		1975		1990		
Rank	Discipline	Female graduates		Discipline	Female graduates	
		Number	Distribution		Number	Distribution
	All female graduates	35,850	100.0	All female graduates	61,154	100.0
1	Education	9,796	27.3	Education	11,289	18.5
2	Languages	3,633	10.1	Business/commerce**	6,330	10.4
3	Psychology	2,596	7.2	Languages	5,428	8.9
4	Sociology	1,364	3.9	Psychology	5,389	8.8
5	Fine and applied arts	1,336	3.7	Sociology	3,058	5.0
6	Nursing	1,284	3.6	Nursing	2,492	4.1
7	Physical education	1,107	3.1	Fine and applied arts	2,353	3.8
8	Household science*	1,031	2.9	Biology	2,051	3.4
9	History*	994	2.8	Physical education	1,670	2.7
10	Biology	894	2.5	Social work**	1,455	2.4
	Total top 10	24,035	67.1	Total top 10	41,515	68.0
	Other disciplines	11,815	32.9	Other disciplines	19,639	32.0

Source: University Student Information System database, Education, Culture and Tourism Division

* Top 10 in 1975, not in 1990.

** Top 10 in 1990, not in 1975.

Languages ranked third in 1990, down from second in 1975, as the proportion of all female graduates earning degrees in this area fell slightly from 10% to 9%. In 1990, psychology and sociology ranked fourth and fifth, whereas they had been third and fourth in 1975. However, both disciplines accounted for somewhat higher proportions of female graduates in 1990 than in 1975: 9% and 5% compared with 7% and 4%.

Conclusion

Between 1975 and 1990, women became the majority of bachelor's degree graduates. At the same time, female representation in almost all male-dominated disciplines increased, occasionally to the point where the discipline could no longer be considered "male-dominated." This growth generally came about because the rise in the number

of women obtaining degrees outpaced that of their male counterparts. In some disciplines, however, higher female representation resulted from increases of women combined with decreases in the number of men.

The growing number of women with bachelor's degrees in male-dominated disciplines has several consequences. One of the most obvious is a larger pool of women qualified to pursue graduate studies in male-dominated fields of study.

As well, this shift in educational choices opens the door for women to enter professions in which they have traditionally been only a small minority. The availability of female graduates qualified for positions in areas such as the sciences and commerce might ultimately alter long-term employment patterns, which have historically concentrated women in a small group of occupations. □

Notes

¹ This includes first professional degrees. Awarded at the undergraduate level, these degrees differ from bachelor's degrees in that they require a prior degree and/or a professional licence to practice a profession. The program may also contain practical elements not normally found in bachelor's programs. These degrees include: law (LLB), medicine (MD), veterinary medicine (DVM), dentistry (DDS, DMD), and education (B.Ed., requiring a prior bachelor's degree).

² Figures include foreign students as well as Canadian citizens. The proportion of men among foreign students tends to be relatively high.

³ The declining number of men in these fields, particularly professions such as law and medicine, may not indicate less interest on the part of men so much as the institutions' lack of capacity to increase enrolment beyond a given level.

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Staying put: Job tenure among paid workers

Alya Belkhodja

From 1977 to 1991, the average job tenure of paid workers increased by 10%, from 6.9 to 7.6 years. The principal factors responsible for this increase include the greater and, in particular, continuing presence of women in the labour market, the decrease in the number of young people in the population and the reduction in the number of workers with short tenure during the recessions of the early 1980s and 1990s.

Job tenure is a labour market indicator complementary to the level of employment and the unemployment rate. It can reflect worker mobility and the dynamism of the labour market, but also its instability. For example, average tenure in a growing industry (or even in the economy) falls so long as the level of hiring remains high. Conversely, average tenure rises when an industry, for whatever reasons, reduces or ceases its hiring activity or lays off the last to be hired. Under these conditions, experienced workers no doubt are less inclined to seek work elsewhere. Hence, the interpretation of changes in average tenure can be quite complex.

This article analyses changes in the average job tenure of paid workers during

the 1977 to 1991 period. It also examines overall trends in various job tenure categories, by sex and industry.

Changes in average tenure – overall trends

The average tenure of paid workers increased from 6.9 years (83 months) to 7.6 years (91 months) between 1977 and 1991 (up 10%). While the trend was for average tenure to rise during the period as a whole, it nevertheless varied with economic cycles (Chart A).

From 1977 to 1981, average tenure remained stable, oscillating around 6.9 years. In 1982, a full year of recession, it rose to 7.3 years, as layoffs and reduced hirings resulted in an increase in average tenure.¹ (In addition, in a recession, employment opportunities are reduced, which discourages workers from changing jobs. This reduction in worker mobility probably also contributed to the increase in average tenure.²) From 1983 to 1989, a period of expansion, average tenure was fairly stable, with a slight increase occurring between 1983 and 1984, followed by a slight decrease, probably due to increased hirings. The phenomenon of growth was repeated during the 1990-91 recession, with a less marked increase in the first year and a larger one in the second.

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Definitions and limitations of the data

The Labour Force Survey (LFS) measures job tenure by asking workers the starting date with their present employer.³ However, this statistic does not measure the actual duration of jobs because it deals with incomplete periods. It actually measures the time elapsed between the starting date and the date of the survey. The length of tenure is not affected if an employee changes position while remaining with the same employer. For example, being promoted or transferred to another division in a large firm does not cancel the years of tenure accumulated in the previous position.

In the case of seasonal workers, who frequently return to work for the same employer, the starting date corresponds to the most recent date of return to work and not to the original hiring date. The seasonal nature of certain industries may prevent workers from accumulating even one year of tenure. This means that the measurement of tenure as defined by the LFS does not reflect the total duration of employment accumulated by seasonal workers with the same employer.

Average tenure corresponds to the average number of years a person has been working for the same employer. It is calculated by dividing the sum of the accumulated tenure of all paid workers by the total number of paid workers.

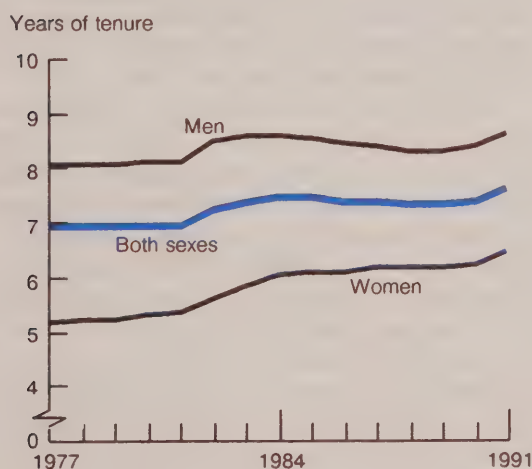
In this article three tenure categories are defined as follows:

Job tenure category	Length of employment with the same employer
Short-term	1 to 12 months
Intermediate	1 to 5 years (13 to 60 months)
Long-term	over 5 years (61 months or more)

To make the population studied more homogeneous, the analysis was restricted to paid workers.⁴ However, students were dropped from the paid worker population because of their inherent instability of employment.⁵

Chart A

The average job tenure of paid workers is rising.



Source: Labour Force Survey

Apart from economic cycles, other factors, such as demographic changes that have affected the labour market for some 20 years, have also had an impact on tenure. Among these are the changes in the composition of the labour force due to the increased and continuing presence of women in the labour market (growth of 55% between 1977 and 1991) and to the 18% drop in the number of young people between the ages of 15 and 24 since 1980 (resulting in an aging labour force⁶). These two factors have certainly contributed to the increase in average tenure. It is even possible that they have kept average tenure at levels slightly higher than they were before the recession of the early 1980s.

Average tenure by sex

From 1977 to 1991, average tenure rose for both sexes. This increase, however, was more marked among women (Chart A), whose average tenure increased by 26% (5.1 to 6.5 years), than among men (up 7%, from 8.1 to 8.6 years).

The increase in average tenure between 1977 and 1991 does not necessarily indicate greater employment stability. For example, pursuing a lifetime career with one firm no longer seems to be the norm for men, who may change jobs several times during their working lives. Among women, however, the increase in average tenure reflects their rising attachment to the labour market. Women have entered the workforce in large numbers in the last two decades. On average, they are having fewer children, and those who have them return to work after a relatively short maternity leave, so their average tenure is increasing. While it is still higher among men than women, the gap between the sexes has decreased. It appears that, for men and women, job tenure is converging over time, as are other aspects of employment (Chawla, 1992).

Profile of average tenure by industry...

For the entire period under review, the average tenure of workers in the goods sector was greater than that of workers in the service sector (Table 1). Within the goods sector, however, manufacturing and mining showed higher average tenure, while the seasonal industries of agriculture, forestry, fishing and trapping,⁷ and construction showed lower average tenure. The average tenure in the goods sector overall was higher because many workers in manufacturing industries have long tenure.

The average tenure observed in the service sector ranges from about 4 years in personal services to 10 years in transportation, communication and other utilities, and public administration. Within personal services, employees in accommodation and food services had the lowest average tenure in 1991, at 3.5 years.⁸

Average tenure is thus lower in industries characterized by a high turnover rate and the use of unskilled or seasonal labour, especially in some components of the tertiary sector.

... and by full-time or part-time employment

Part-time work expanded quickly from 1977 to 1991. The percentage of paid workers who filled part-time positions rose from 8.6% to 12.6%.⁹ Average tenure varies considerably between full- and part-time jobs (Table 1). In 1991, only part-time workers in the seasonal industries of agriculture and construction had average tenure greater than that of full-time workers. In public administration, and transportation, communication and other utilities, the average tenure of part-time workers was about half that of full-time workers. In general, these observations hold for the entire period.

Job tenure categories – general trends

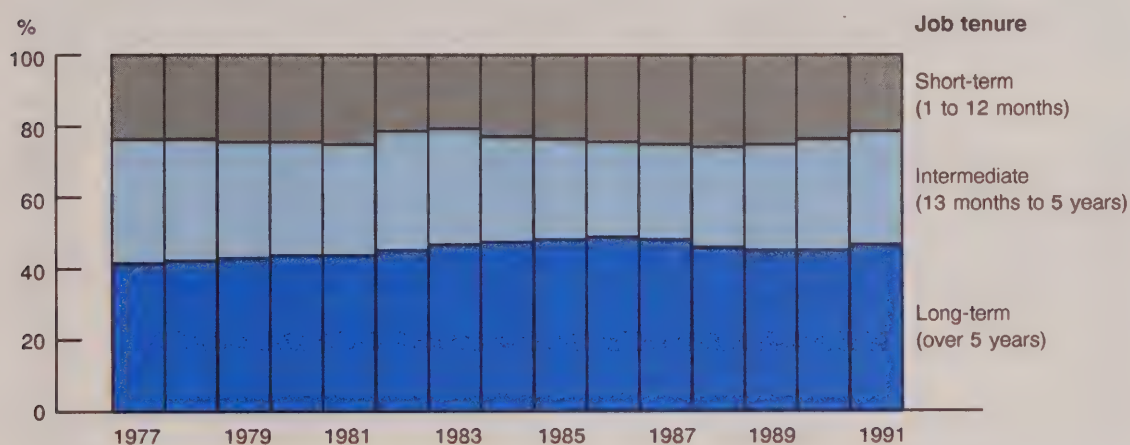
Job tenure was broken down into three categories: short-term (1 to 12 months of employment), intermediate (1 to 5 years) and long-term (over 5 years). During the period under review, workers with short-term tenure accounted for 24% of paid workers, on average, those with intermediate tenure, 31%, and those with long-term tenure, 45%.

Average tenure increased between 1977 and 1991. However, despite large fluctuations in the percentage of paid workers with intermediate tenure, there was a slight proportional decrease overall of workers in this category (Chart B). The proportion of workers with long tenure, on the other hand, increased slightly.

As shown earlier, the category most affected by a recession is that of workers with short tenure (Table 2). The link between recession and jobs with short tenure seems quite clear. In general, the youngest workers and those who have accumulated the least experience are the first to be laid off in difficult times. In addition, the level of hiring falls. Those with long tenure also seem to be affected by economic conditions, since there is a reduction or slower rate of

Chart B

Fewer than half of paid workers have more than five years of tenure.



Source: Labour Force Survey

Table 1
Average job tenure by industry, 1977 and 1991

	Paid workers*		Full-time	Part-time
	1977	1991	1991	
	Number of years			
All industries	6.9	7.6	8.0	5.0
Goods sector	7.7	8.3	8.4	6.1
Agriculture	7.3	7.6	7.3	8.8
Forestry, fishing and trapping	5.3	4.8	4.9	--
Mining	8.3	9.2	9.2	--
Manufacturing	8.7	9.3	9.5	5.5
Construction	4.4	4.8	4.7	5.4
Services sector	6.5	7.3	7.8	4.9
Transportation, communication and other utilities	9.9	10.3	10.7	5.9
Trade	5.7	5.9	6.1	4.5
Finance, insurance and real estate	5.7	7.2	7.4	6.0
Community services**	6.4	8.7	9.5	5.7
Business services	4.2	4.7	4.7	4.3
Personal services†	3.8	3.8	4.0	3.1
Public administration	8.3	9.9	10.1	5.3

Source: Labour Force Survey

* Excluding students.

** Includes health and welfare services, education, and religious organizations.

† Includes personal and household services, accommodation and food services, amusement and recreation services, and miscellaneous services.

Table 2
Paid workers by job tenure category, 1977-1991

Year	Total	Tenure		
		Short-term	Intermediate	Long-term
		'000		
1977	7,671	1,845	2,634	3,192
1978	7,940	1,898	2,716	3,325
1979	8,249	2,038	2,683	3,528
1980	8,470	2,074	2,718	3,677
1981	8,654	2,168	2,708	3,778
1982	8,316	1,817	2,729	3,770
1983	8,308	1,753	2,665	3,889
1984	8,500	1,939	2,515	4,046
1985	8,683	2,064	2,435	4,184
1986	8,905	2,191	2,379	4,335
1987	9,143	2,280	2,490	4,373
1988	9,370	2,420	2,649	4,301
1989	9,590	2,424	2,846	4,320
1990	9,592	2,292	2,998	4,301
1991	9,335	2,012	3,001	4,322

Source: Labour Force Survey

growth in jobs with long tenure in recessionary times.¹⁰ Overall, however, there was a slight increase in the number of such workers.

Job tenure categories by sex

From 1977 to 1991, the number of women increased in every job tenure category, unlike men, whose number rose only in the long tenure category (Table 3).

Table 3
Distribution of paid workers by job tenure and sex, 1977 and 1991

	1977		1991	
	Men	Women	Men	Women
'000				
Total	4,720	2,951	4,924	4,411
%				
Job tenure				
Short-term	22	27	21	22
Intermediate	31	40	29	36
Long-term	47	33	50	42

Source: Labour Force Survey

In 1977, men accounted for 62% of paid workers. They were concentrated in the long tenure category (47%), while women were found mainly in the intermediate category (40%). By 1991, men represented only 53% of paid workers and the distribution of women by tenure was similar to that of men, with the highest proportion having long tenure.

Distribution by industry

In 1991, high proportions of jobs with low tenure were found in seasonal industries, such as forestry, fishing and trapping (54% of workers in these industries) and construction (41%)¹¹, and industries characterized by lower-paid jobs with high turnover, such as accommodation and food services (40%) in the personal services sector and amusement and recreation (39%) in the community services sector.

Jobs with intermediate tenure are most often found in growing service sectors such as business services (44%). This industry experienced particularly high growth in the 1980s (Lévesque, 1986).

Personal and household services (39%) and miscellaneous services (40%) in the personal services sector also have a large proportion of jobs with intermediate tenure.

Finally, jobs with long tenure are concentrated mainly in well-established industries where job security and working conditions are generally better and where the rate of unionization is high, such as public administration (60%), education (59%), transportation, communication and other utilities (59%), mining (56%) and manufacturing (55%). The high concentration of jobs with long tenure observed in certain manufacturing industries may also be attributable to the many layoffs and low rate of hiring in recent years, which have mainly affected workers with short tenure.

Impact of the recent recession

Is the distribution of tenure categories by industry in 1991 representative of other years? Has the recession resulted in changes in certain sectors? To measure its impact, the distribution of tenure by industry in 1991 was compared with the average distribution for three expansionary years: 1987, 1988 and 1989. This comparison

confirms the impact of the recession on the distribution of tenure by showing a decrease in the percentage of workers with short tenure in all industries with the exception of forestry, fishing and trapping, where it remained more or less stable.¹²

Summary

On average, people work longer for the same employer today than 15 years ago. This increase in average tenure is difficult to interpret, however. There appears to be a link between economic cycles and job tenure. In recessionary periods, average tenure increases because of the decreased number of workers with short tenure.

In addition, the increase in average tenure may be attributed to various other factors, such as the decrease in the number of young people aged 15 to 24 (resulting in an aging workforce), and the rising attachment of women to the labour market. Women are more consistently participating in the labour market in 1991 than in 1977, showing gains in all tenure categories, especially that of long tenure. □

Notes

¹ This increase seems to confirm that layoffs initially affect workers with low seniority. If they mainly affected workers with higher-than-average job tenure, average tenure would decrease.

² See the article by G. Lemaître et al. (1992) concerning the reduction in hirings and voluntary termination of employment during a recession, and the article by D. Galarneau (1992) on hirings.

³ If a worker has more than one job, the duration of employment used in this article is that of the main job only.

⁴ Self-employed workers, who have a much higher average tenure than paid workers, were excluded from this study. The difference in average tenure between self-employed and paid workers has decreased substantially, from 4.2 years in 1977 to 2.8 years in

1991. This is attributable to a decrease in the average tenure of self-employed workers caused by their massive influx into the labour market during the 1980s (Cohen, 1992), combined with an increase in the average tenure of paid workers.

⁵ Full- and part-time students were excluded, as were students on summer vacation who intended to return to school in the fall.

⁶ The average age of Canadians between 15 and 69, used as a base for the Labour Force Survey, increased from 36.7 years in 1977 to 38.5 years in 1991.

⁷ Paid workers in the agriculture, forestry, fishing and trapping industries in 1991 accounted for 33% of total employment in these sectors. Of those who had held their job for less than a year, 83% had a tenure of one to six months.

Notes – concluded

⁸ Between 1977 and 1991, the average age of paid workers increased in all industries except for trade, where it remained stable, and personal services, where it decreased. The industries that showed the greatest increases in average age were education (part of community services) where the average age rose from 37.8 to 41.6 years, and finance, insurance and real estate, where it increased from 34.5 to 37.7 years.

⁹ Part-time workers are those who work less than 30 hours a week at their main job.

¹⁰ A decrease in the number of workers with over 20 years of tenure observed in 1982 and 1983 seems to confirm the effect of measures taken by certain firms to encourage workers to take early retirement. See the

study by L. Taylor (1983), which discusses retirement incentive measures introduced in 1982 and 1983 by eight Canadian firms as part of a staff reduction program. The study estimates that about a third of the employees who met the eligibility criteria for early retirement took advantage of these measures (over 2,200 workers).

¹¹ The large percentage of jobs in construction with short tenure is not necessarily associated with a greater instability of employment, since it is the role of construction unions to ensure their members have work.

¹² A table showing the distribution of job tenure categories by detailed industry breakdowns for 1987 to 1989 and 1991 is available on request.

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Employer-sponsored pension plans – who is covered?

Hubert Frenken and Karen Maser

Registered employer-sponsored pension plans (RPPs) provide an important source of income for Canada's retired population. In 1990, \$15 billion in RPP benefits was paid out to Canadians aged 55 and older. These benefits are, however, far from universal. They are paid only to retired workers (and in some cases to their spouses) who were able to accumulate such pension credits during their working years. In 1989, not even half the paid workforce were members of RPPs.

Worker participation in retirement income programs, particularly RPPs, has become a much discussed topic recently.¹ But employer-sponsored pension plans are not, of course, the only retirement savings option. All workers aged 18 and older belong to the Canada or Quebec Pension Plan, and each year a growing number take advantage of the tax-assistance opportunities provided by registered retirement savings plans (RRSPs).

This article, however, focuses on pension plans provided by employers and on the workers they cover. Have the coverage rates for employer-sponsored pension plans changed in the past decade? Can factors that

affect these rates be identified? What are the prospects for improvements in coverage given current economic and, particularly, labour market conditions?

Decreasing coverage

Between 1979 and 1989, the proportion of the employed paid workforce 15 years of age and older covered by employer-sponsored pension plans declined from 48% to 45%, according to data from the Pension Plans in Canada (PPIC) database (Chart A). This drop was mainly due to the fact that the number of men covered by RPPs did not grow as fast as the number of male paid workers. The coverage rate for men, which had increased slightly from 54% in 1979 to 55% in 1983, fell to 50% in 1989. Meanwhile, the proportion of women who were covered remained relatively constant (at about 37%) in the early 1980s, but increased to 39% by 1989. Changes in pension legislation concerning part-time workers may have been a factor in the growth in the women's coverage rate.

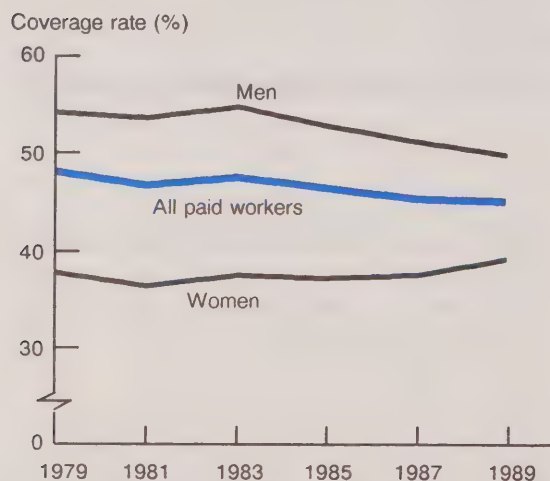
Who is covered?

The overall coverage rate, evident from the PPIC data, says little about the types of workers most or least likely to be covered by RPPs. Using data from the Labour Market Activity Survey (LMAS), coverage can be determined for a number of characteristics

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Chart A

Pension coverage is declining for men, while it is increasing for women.



Sources: Pension Plans in Canada database and Labour Force Survey

Data sources

This article uses data from: the Pension Plans in Canada (PPIC) database, the Labour Force Survey (LFS) and the Labour Market Activity Survey (LMAS).

The PPIC database provides comprehensive data on a wide variety of characteristics of all registered employer-sponsored pension plans (RPPs) in Canada. It is updated annually, using information supplied to Statistics Canada by the federal and provincial agencies responsible for the supervision and regulation of pension plans in their jurisdictions. Generally, the membership reported reflects the total number of active participants at the end of the plan year (usually December 31), including those persons on temporary layoff whose participation has not been terminated. For further details on the PPIC program consult *Pension plans in Canada* (Statistics Canada, 1990 and 1991) or contact the Pensions Section, Labour Division at (613) 951-4034.

The LFS provides monthly estimates on employment, unemployment and non-labour force activities. Pension plan coverage rates can be calculated using the PPIC membership data and various LFS-based annual averages. The most widely quoted rate is the percentage of the total labour force that is covered. This rate may be somewhat misleading, however, since portions of the labour force, such as the unemployed, the self-employed and

related to employers (sector, industry and firm size) and to jobs (full-time/part-time status and union affiliation). These data also provide information on the characteristics of covered workers themselves (sex, age and earnings). For this study only paid workers 20 years of age and over were considered (see *Data sources*).

Public sector coverage much higher

According to the LMAS, almost 49% of paid workers aged 20 and older were covered in 1989. However, coverage in the public sector was 73%, compared with just 39% in the private sector (see *Public and private sectors*). This difference was evident for both men and women. In the public sector 81% of men and 66% of women were covered, while the comparable rates for the private sector were 47% and 30%, respectively (Chart B). Similar differences in public versus private sector coverage rates were apparent for other characteristics of workers and of jobs (Table 1).

unpaid family workers, are precluded from pension plan participation. A more useful rate is the percentage of employed paid workers that are covered.

The LMAS, an annual survey from 1986 to 1990, collected information on labour market participation patterns and the characteristics of jobs held during the year. It identified up to five jobs held by each respondent and provided data on a variety of attributes for each job, including pension plan coverage. For this study, pension plan participation means having at least one job that provided pension plan coverage during the calendar year.

The LMAS uses the individual's principal job to classify respondents in terms of attributes such as industry, firm size and union membership. With multiple jobholders, the principal job is determined by considering the number of hours worked at each job during the year. For multiple jobholders with just one job with pension plan coverage, that job is considered the principal job, notwithstanding the amount of time spent at other jobs during the year.

Paid workers includes all employed workers except unpaid family workers and self-employed working owners of incorporated and unincorporated businesses. Only 5% of paid workers under 20 years of age participated in RPPs in 1989. Therefore, this study has been limited to persons 20 and over. For more information, contact Stephan Roller, Household Surveys Division, at (613) 951-4625.

Table 1
Pension coverage rates, 1989

	Both sectors	Public sector	Private sector
	%		
All paid workers aged 20 and over	49	73	39
Age			
20-24 years	24	43	20
25-34 years	47	72	39
35-54 years	58	79	48
55 years and over	51	72	42
Earnings			
\$1 – \$19,999	27	47	22
\$20,000 – \$29,999	59	83	49
\$30,000 – \$39,999	72	90	63
\$40,000 – \$59,999	82	95	73
\$60,000 or more	73	92	65
Type of work			
Full-time	53	80	43
Part-time	24	43	13
Union affiliation			
Unionized	76	85	67
Non-unionized:			
Covered by collective agreement	58	68	49
Not covered by collective agreement	31	41	29
Firm size			
1-19 employees	15	31	13
20-99 employees	34	63	27
100-499 employees	57	73	48
500 employees or more	72	83	65

Source: Labour Market Activity Survey

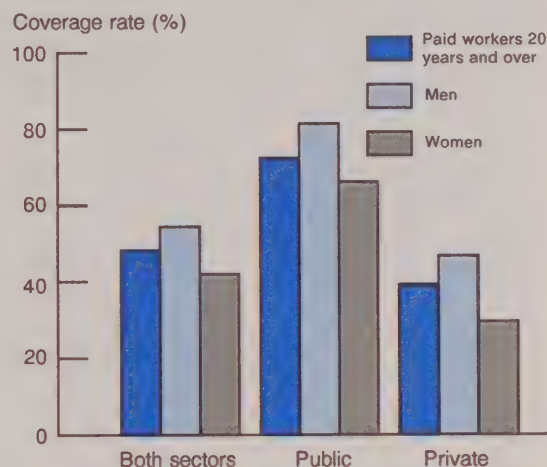
Industry and firm size are important factors

Pension plan coverage rates* vary significantly by industry. With the exception of agriculture (with a rate of under 10%), the lowest rates were in business, personal and other services (20%) and in trade (29%) (Table 2). This is important because almost one out of every three paid workers in Canada is employed in these industries.

The high incidence of RPP coverage noted among public sector workers is reflected in the higher-than-average rates in

Chart B

In 1989, pension coverage was much lower in the private sector than in the public sector.



Source: Labour Market Activity Survey

those industries that are considered to be primarily public sector for this study. By far the highest coverage was in government services (78%), but the rates in transportation, communication and other utilities (67%) and community services (health and social services and education) (64%) were also notable.

Not surprisingly, smaller firms are much less likely than larger ones to provide RPPs. Fewer than 15% of paid workers in firms with less than 20 employees were pension plan members in 1989. This proportion climbed to 72% for those in firms employing 500 or more workers.²

Full-time and unionized jobs more likely to be covered

The pension plan coverage rate for workers in full-time jobs was 53% in 1989 – 80% for those in the public sector and 43% for private sector workers. Part-time employees, who

Public and private sectors

Pension plan coverage rates are not only vastly different for the public and private sectors, they have also tended to remain much more stable for the public than the private sector.

In the Pension Plans in Canada (PPIC) database, public sector plans are defined as those offered to employees of the three levels of government, including Crown corporations, boards and commissions. RPPs for teaching and non-teaching employees of school boards (elementary and secondary), for staff of post-secondary, non-university institutions, for hospital workers and for employees of other public health care institutions and social services agencies are also included in the public sector. Plans for the remaining employers make up the private sector.

The Labour Market Activity Survey (LMAS) data were split into two portions, to produce similar public and private sector approximations. LMAS public sector workers were identified as those whose principal jobs (see *Data sources*) were in industrial sectors that consist totally or mostly of government operations or services or whose principal employers were Crown corporations or government agencies. The remaining LMAS respondents were assumed to be private sector workers. An examination of the LMAS data shows public and private sector portions that are comparable to the PPIC data.

accounted for one out of every seven paid workers (but one out of every four for women), had a coverage rate of only 24%. Recent changes in pension legislation require that part-time employees meeting certain minimum conditions must now be eligible to participate in employer pension plans. Many, however, may choose not to participate or may not have worked long enough to be eligible.³

Pension plan participation is also much more common for union members and those covered by collective agreements than for those who have no such protection. In 1989, over three-quarters of union members belonged to pension plans, compared with just over 30% of employees in the latter group.

Coverage by sex, age and earnings: big differences

The proportion of men aged 20 and older covered by pension plans in 1989 far

Table 2
Pension coverage rates by industry, 1989

	Coverage rates			Distribution of paid workers		
	Total	Men	Women	Total	Men	Women
	%					
All industries	49	54	42	100	53	47
Goods-producing						
Agriculture	9	12	5	100	55	45
Other primary*	50	52	43	100	84	16
Manufacturing	55	61	39	100	71	29
Construction	35	37	20	100	87	13
Service-producing						
Transportation, communication and other utilities	67	70	60	100	72	28
Trade	29	35	24	100	51	49
Finance, insurance and real estate	59	63	56	100	34	66
Community services**	64	75	59	100	28	72
Business, personal and other services†	20	27	15	100	39	61
Government services	78	82	72	100	56	44

Source: Labour Market Activity Survey

* Includes forestry, fishing and mining.

** Includes health and social services; and education services.

† Includes business services; accommodation, food and beverage services; and other services.

exceeded that of women (54% versus 42%). The lower coverage rates for women can be partly attributed to the fact that they account for a higher proportion of part-time workers. Also, they are over-represented in industries such as business and personal services, where coverage rates are lower. The difference in rates for men and women was much more pronounced for those aged 35 and older than for those under 35.

At 58%, paid workers aged 35 to 54 were the most likely to be pension plan participants (Chart C). The rate dropped slightly, to 51%, for those 55 and older. Fewer than one-quarter of 20 to 24 year-old paid workers belonged to RPPs. Nearly 21% of these younger workers have part-time jobs and for them pension plan membership, if available, was generally voluntary and of low priority. Even among full-time workers, the participation rate was lower for this age group than for older groups because of eligibility conditions.⁴

Only 27% of workers with annual employment earnings⁵ of less than \$20,000 were pension plan members in 1989 (Chart D). Almost one-half of paid workers fell into this range and the majority (over 62%) were women. At the \$40,000 to \$59,999 level, 82% were covered. This rate decreased to 73% for those with earnings of \$60,000 or more.

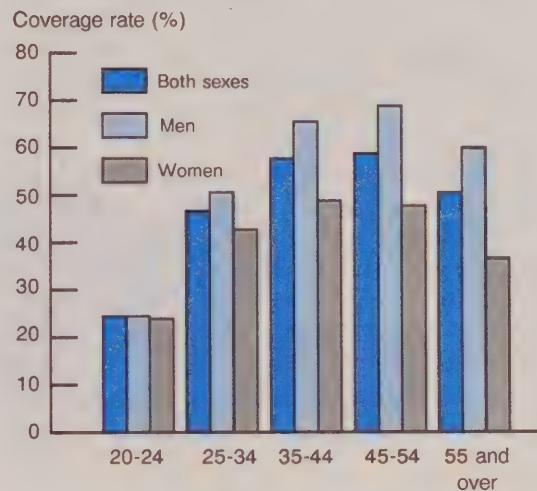
The low coverage rate for workers earning less than \$20,000 is partially because many part-time workers are found in this group. It also reflects the lower wages more often associated with small firms, which have lower pension coverage rates. Large firms, on the other hand, tend to pay higher wages and are also more likely to provide pension plans (Morissette, 1991).

Future prospects for RPP coverage

It appears that prospects for growth in pension plan coverage are limited, considering the changes taking place in the

Chart C

Paid workers aged 35 to 54 had the highest pension coverage in 1989.



Source: Labour Market Activity Survey

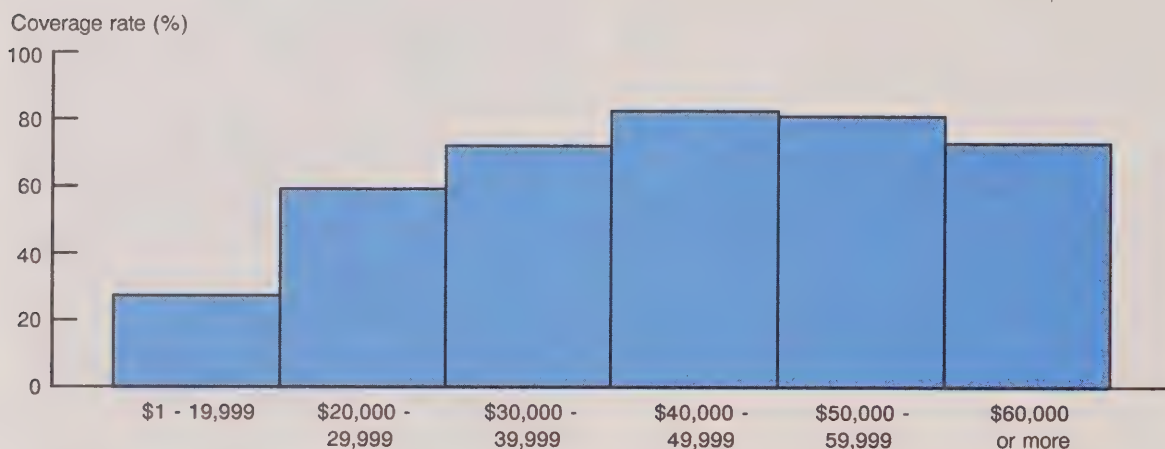
Canadian labour market.⁶ Labour Force Survey (LFS) data show that many of the high coverage areas identified above have experienced extensive job losses in recent years, while a number of areas with low coverage rates seem to be growing faster than the workforce in total.

In 1981, just 9% of paid workers aged 20 and older were employed in part-time jobs. Ten years later this proportion had increased to 12%. In fact, part-time workers accounted for nearly one-third of the 1.4 million gain in the number of paid workers during this period. Despite legislative changes affecting part-time workers, it is not yet known to what extent these employees will opt for RPP participation.

LFS data also show that self-employment has been growing much faster than paid work. Owners of unincorporated businesses are, by definition, excluded from RPP participation, since they are not employees *per se*. Owners of incorporated

Chart D

In 1989, paid workers earning less than \$20,000 were the least likely to have pension coverage.



Source: Labour Market Activity Survey

businesses can participate in RPPs, although their plans are subject to Revenue Canada restrictions that are not applicable to other RPPs. Traditionally, relatively few of this latter group have been covered.⁷ The number of self-employed workers aged 20 and over grew 35% from 1981 to 1991, while the number of paid employees in this group increased only 15%.

Employment in business, personal and other services, where the coverage rate is only 20%, rose by 40% from 1981 to 1991. Trade, which also has a low coverage rate, increased by 20%. On the other hand, significant job losses occurred in manufacturing and in mining, industries that have always had high RPP coverage rates.

A recent study (Wannell, 1992) showed that "the percentage of jobs found in small firms ... increase(d) in the 1980s." While the proportion of workers employed in the largest firms (500 employees and over)

decreased from 44% in 1978 to 39% in 1988, the shares of jobs in companies with 1 to 19 employees and with 20 to 99 employees both increased. This trend appears to have continued since 1988, an important issue since, as previously indicated, small- and medium-sized firms are less likely to provide pension plans for their workers than large ones.

Much recent discussion has centred on how regulatory legislation has affected employers' willingness to provide RPPs (Bramm, 1991, Jarvis, 1992 and Noakes, 1991). It has been argued that legislative requirements not only discourage employers without RPPs from implementing them, but also entice others to terminate existing plans.⁸

Conclusion

Employer-sponsored pension plan coverage has not kept pace with employment growth.

Moreover, coverage is far from homogeneous. Pension plans are much more prevalent in some industries than in others, and in the public sector compared with the private sector. As well, those who have full-time jobs and jobs covered by union agreements are much more likely to belong to pension plans than those who work part-time or who are non-unionized. Large firms tend to offer pension plans to their employees much more frequently than medium- and small-sized firms.

Many of these factors are related, of course. Some industries with low pension coverage are dominated by small employers; for example, trade and personal services. Similarly, the low coverage rates for women reflect their heavy representation in some industries with low coverage, in part-time work and in non-unionized jobs.

Continued employment growth in industries with low RPP coverage rates, coupled with more part-time work and a rising share of jobs in small businesses suggest further erosion of coverage rates in the future.

The focus of this article has been employer-sponsored pension plan coverage. Other ways of accruing retirement benefits should not be ignored, however. The dramatic growth in RRSPs, both individual and group, evident in recent years may compensate to some extent for any perceived inadequacy in pension coverage (see Frenken, 1990 and 1991). More and more employers and workers seem to be considering these plans as an alternate vehicle for accumulating retirement savings.⁹ □

Notes

¹ The issue has been studied by the Pension Commission of Ontario and was the focus of a September 1991 conference, jointly sponsored by the Canadian Pension Conference (CPC), the Canadian Association of Pension Supervisory Authorities (CAPSA) and the Canadian Institute of Actuaries (CIA). The CPC (renamed the Canadian Pensions and Benefits Conference in May 1992) is dedicated to promoting understanding of income security and employee benefits in Canada. CAPSA is an association of federal/provincial government officials responsible for the implementation and enforcement of regulatory pension legislation. The CIA is a self-governing body regulating the practice of actuarial science in Canada. The data presented here are an update and expansion of a paper presented by Karen Maser at that September 1991 conference.

² Employer size is based on the size of the "company" at the national level, not on the size of individual local operations. It was not possible to determine the employer size for some jobs in the LMAS. Therefore, 11% of paid workers aged 20 and older, for whom the employer-size group was undetermined, are excluded from this portion of the analysis. The RPP coverage rate for this 11% was very close to the overall coverage rate.

Workers employed by small public sector "firms" (for example, small municipalities, hospitals or government agencies) have greater access to RPPs than their private sector counterparts, because of the widespread use of

multi-employer plans in the public sector. The Hospitals of Ontario Pension Plan, for example, covers nearly 100,000 workers employed by both large and small health care institutions in Ontario. In the private sector, only 13% of workers employed by firms with fewer than 20 employees have pension coverage, while 65% of employees of firms with 500 or more workers participate in RPPs.

³ RPPs are subject to regulatory legislation of provincial governments and, in the case of certain employers, the federal government. By the end of 1989, five jurisdictions had recently modified their pension legislation, including provisions affecting part-time workers. Since then, two others have implemented similar regulations. The impact of these legislative changes on coverage rates is difficult to determine. According to the PPIC database, in 1990 most pension plans members (89%) belonged to plans requiring compulsory participation; however, for about 56% of all participants some condition, usually based on years of service, had to be met before membership was possible.

In general, employers tend to have mandatory participation for full-time workers (once the eligibility condition is satisfied), while part-time employees are given the option not to join. (Pension plans subject to Manitoba's legislation, which mandates participation for all workers meeting minimum standards of service and income, are an exception.) Many part-time workers may have taken advantage of the opportunity provided

Notes – concluded

by the legislation. The growth in the female coverage rate may be partially the result of such a response.

⁴ See note 3.

⁵ For purposes of this analysis, employment earnings refers to earnings from all paid jobs held during the year.

⁶ This subject has been discussed in a previous article using different data sources (Leckie and Caron, 1991).

⁷ The PPIC database seems to substantiate this low coverage rate. In 1990, there were just 5,300 RPPs designated as being exclusively for executive employees (including owners of incorporated businesses) and these plans covered just 24,000 members. LFS data show nearly 600,000 self-employed working owners of incorporated businesses that year.

⁸ Recent changes in legislative requirements, particularly those affecting defined benefit RPPs, have

presented new administrative complexities for plan sponsors, increased their costs under certain circumstances and possibly weakened their arguments for ownership of surplus assets.

⁹ Supplementary information on plan discontinuations tends to support the widely held belief that more and more employers are terminating their RPPs, with the purpose of replacing them with RRSPs. Data from the Alberta Pension Supervisory Authority show that, for nearly two-thirds of RPPs discontinued in that province in the 1990-91 fiscal year, the reason for discontinuation given by employers was "replaced by RRSPs" (Alberta Labour, 1991). As recently as 1987, the incidence of replacement by RRSPs as a reason for discontinuation was so infrequent that this reason was not separately identified. Another example of the growth of group RRSPs may be found in the Revenue Canada data on new RRSP contracts. These data show that in 1990, 500,000 new RRSP contracts were registered under group arrangements, 71% more than the previous year.

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Alternative measures of unemployment

Mary Sue Devereaux

From the Great Depression of the 1930s to the recent recession, the consequence most frequently associated with an economic downturn has been unemployment. Unemployment figures, in fact, are often cited as an indicator of the severity of economic conditions. And as unemployment rises, so does concern that the official rate reported each month by Statistics Canada may not be measuring the full extent of the problem.

For some observers, the conventions by which unemployment statistics are compiled may fail to account for a considerable number of persons who are "underemployed." For example, calculations of the official unemployment rate make no provision for part-time workers who would prefer full-time jobs. As well, a number of potential workers may have given up looking for employment because they believe that no jobs are available. These discouraged workers are not included in the official counts of the unemployed because they have not been actively seeking jobs.

On the other hand, for some purposes, the official unemployment rate may be too inclusive. If, for instance, the rate's purpose is to measure economic hardship, then perhaps it should exclude relatively brief

periods of unemployment or focus on persons with dependants. The rationale underlying such measures would be that the financial consequences may be more serious as the duration of unemployment lengthens or for persons who have young children.

In response to concerns that the official rate does not account for these and other aspects of unemployment, and in recognition of the fact that no single definition is suitable for all purposes, Statistics Canada regularly publishes a series of supplementary unemployment measures.¹ These alternative rates are neither exhaustive nor definitive; their purpose is more to illustrate the variety of ways that unemployment and the underutilization of labour can be measured. They also enhance understanding of the labour market by revealing aspects of unemployment not reflected by the official rate.

During the recent recession, which began in the second quarter of 1990, the unemployment rate received close scrutiny, with considerable attention paid to persons who are not counted by the official figures. This article illustrates how trends in unemployment would have appeared if different concepts had been used to measure it.

The study begins with an explanation of the official rate and eight alternatives that are calculated using data collected by the Labour Force Survey (LFS).² The course of the official rate and the various alternatives is then traced from the first

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quarter of 1990 to the second quarter of 1992. The emphasis is on the degree to which these supplementary rates differ from the official rate in the timing and extent of fluctuations and in the pace of change. (The unemployment rates in this article have not been adjusted for seasonal variation.)

Defining unemployment

Canada's working-age population (those aged 15 years and over) can be divided into three groups: the employed, the unemployed, and persons not in the labour force. The labour force consists of persons who are employed and those who are unemployed.

Counted among the employed are persons who did any work for pay or profit during the reference week, as well as those who were absent from a job or business for reasons such as illness, vacation, labour dispute, or family responsibilities.

To be officially classified as unemployed, a person must not have worked in the reference week; must have actively sought work sometime in the previous four weeks; and, must be currently available to take a job. Persons who have not looked for work because they are on temporary layoff or because they have a new job scheduled to start within four weeks are also counted as unemployed. The official unemployment rate shows the unemployed as a percentage of the total labour force.³

This official rate is designated "R5," and the various alternatives, "R1" to "R4" and "R6" to "R9," based on their rank order (lowest to highest) in 1977, the first year data were available for all calculations.⁴ (See *Appendix* for more detail on the calculations.)

The rates are:

R1 – Persons unemployed 14 or more weeks as a percentage of the labour force.

R2 – Unemployment rate of persons heading families with (a) child(ren) under age 16.

R3 – Unemployment rate excluding full-time students.

R4 – Unemployment rate including full-time members of the Canadian Armed Forces.

R5 – Official unemployment rate.

R6 – Unemployment rate of the full-time labour force.

R7 – Unemployment rate including discouraged workers and other persons "on the margins" of the labour force.

R8 – Underutilization rate based on hours lost through unemployment and underemployment.

R9 – Unemployment rate of the part-time labour force.

For analytical purposes, the eight supplementary rates can be divided into several categories:

- measures focusing on groups for whom unemployment may present particular economic hardship (R1 and R2);
- measures reflecting groups with varying degrees of labour force attachment (R3 and R4);
- measures that incorporate aspects of "hidden" unemployment or the underutilization of labour (R6 and R7);
- a measure based on hours (R8); and
- a rate for part-time workers (R9).

The official unemployment rate

The effects of seasonality are evident in quarterly unemployment statistics, with the general tendency of the official rate to peak in the first quarter (January to March), decline in the second and third quarters (April to June and July to September), and then rise in the fourth quarter (October to December). Notwithstanding these fluctuations, there has been an overall increase in unemployment since 1990. By the second quarter of 1992, Canada's official unemployment rate was 11.2%. This was a considerable rise from the second quarter of 1990 when the rate had been 7.4%. An average of 1.6 million Canadians were unemployed in the second quarter of 1992, compared with about 1.0 million in the corresponding quarter two years earlier.

Over the same period, the alternative unemployment rates (except the one for part-time workers) generally followed the pattern set by the official rate. That is, when the official rate rose or fell, the others tended to do the same. However, there were differences in the pace at which these changes occurred, indicating that some dimensions of

unemployment may be more sensitive to variations in economic conditions (Table 1).

Measures of economic hardship

Two of the alternative measures concern groups for whom the financial consequences of unemployment may be particularly severe: the long-term unemployed and heads of families with young children.

The long-term unemployment rate (R1) shows the proportion of the labour force that has been out of work for 14 weeks or more. Over the course of a year, trends in long-term unemployment lag behind the official figure, peaking and bottoming out one quarter after the annual highs and lows of the official rate.

Among the alternative measures, long-term unemployment is the lowest, typically less than half the official rate. However, as an economic downturn becomes more severe, spells of unemployment tend to lengthen, and the gap between long-term unemployment and the official rate narrows.

Since early 1990, long-term unemployment increased much faster than any of the other rates. By the second quarter of

Table 1
Alternative unemployment rates, unadjusted quarterly data, 1990-92

	1990				1991				1992	
	I	II	III	IV	I	II	III	IV	I	II
	%									
R1 - Long-term	3.4	3.1	2.7	3.1	4.8	5.0	4.3	4.2	5.8	5.8
R2 - Family heads	7.6	6.5	7.0	8.2	10.3	8.9	8.5	8.8	10.1	9.3
R3 - Excluding full-time students	8.4	7.3	7.5	8.7	11.3	10.0	9.5	9.8	11.8	10.8
R4 - Including military	8.4	7.4	7.7	8.8	11.2	10.1	9.8	9.9	11.8	11.2
R5 - Official rate	8.5	7.4	7.8	8.8	11.3	10.2	9.8	9.9	11.9	11.2
R6 - Full-time labour force	10.0	9.0	9.2	10.4	13.5	12.5	11.8	11.9	14.3	13.7
R7 - Including discouraged workers	9.1	8.1	8.3	9.5	12.1	11.0	10.5	10.6	12.8	12.1
R8 - Hours-based	10.5	9.4	9.8	11.0	14.1	13.1	12.6	12.4	15.0	14.3
R9 - Part-time labour force	9.3	8.1	13.1	10.6	10.9	10.0	15.8	11.0	12.6	13.2

Source: Labour Force Survey

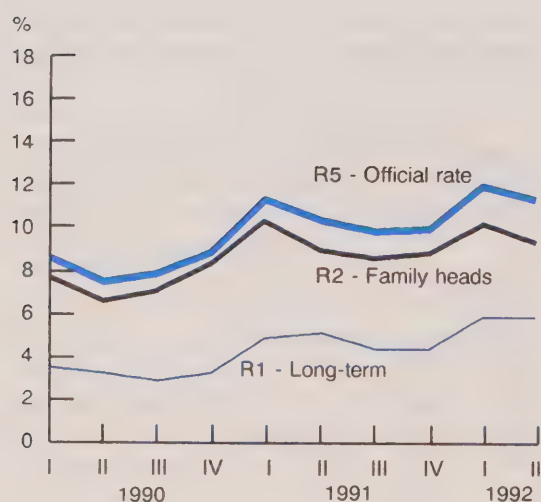
1992, it was 5.8%, up from 3.1% for the same period in 1990 (Chart A). This was an increase from 425,000 to 806,000 persons unemployed for 14 or more weeks.

Unemployment may impose a particularly heavy financial burden on families. This aspect of unemployment is highlighted by the rate for family heads (usually parents) with children younger than age 16 (R2). In the second quarter of 1992, this rate was 9.3%, compared with 6.5% in the corresponding quarter of 1990. This rise, however, was not as steep as that of the official unemployment rate.

Even so, the number of unemployed parents increased considerably. The total for the second quarter of 1992 was 444,000 unemployed versus 305,000 in 1990.

Chart A

The long-term unemployment trend lags that of the official rate.



Source: Labour Force Survey

Students and soldiers

Two other supplementary unemployment measures consistently remain just below the official figure. These rates are calculated by excluding full-time students (R3) or by including full-time members of the Canadian Armed Forces (R4).

The labour force participation patterns of full-time students differ markedly from those of the rest of the population. By the third quarter of the year (July to September, the typical summer vacation months), over a million full-time students are in the labour force, whereas during the first quarter (January to March), the number is about 800,000. As a result, the impact of full-time students on the unemployment rate varies at different times of the year. But although they contribute relatively more to unemployment than to employment, their overall impact is slight: excluding them from the calculations did not lower the national unemployment rate by more than four-tenths of a percentage point in any quarter of the 1990 to 1992 period.

Including full-time members of the Canadian Armed Forces in the calculations also yields an unemployment rate just below the official level. (All members of the Armed Forces are, by definition, employed.) This reduction is minimal, with the difference between this and the official rate never amounting to more than one-tenth of a percentage point.

"Hidden" unemployment

Broadening the concept of unemployment to incorporate two dimensions of underemployment – "involuntary part-time workers" and discouraged workers – produces rates that are above the official figure. Any widening of the gap between these alternatives and the official rate reflects relatively more hidden unemployment.

Unemployment of the full-time labour force

A considerable number of persons who work part time would prefer full-time employment. Thus, to some extent, they are underemployed. The full-time unemployment rate (R6) includes a portion of these involuntary part-time workers along with unemployed persons looking for full-time jobs.

From the second quarter of 1990 to the second quarter of 1992, the full-time unemployment rate rose from 9.0% to 13.7%, a slightly faster increase than that of the official rate. As a result, the gap between the two rates widened (Chart B).

The growing discrepancy between the full-time unemployment rate and the official rate largely reflects increasingly high levels of involuntary part-time employment. From the second quarter of 1990 to the corresponding period of 1992, the number of involuntary part-time workers rose from

409,000 to 662,000, and the share of full-time unemployment attributable to involuntary part-time work increased from 19% to 20%.

Discouraged workers

Some potential workers do not look for a job because they believe that no suitable employment is available. These discouraged workers are not counted in the official unemployment figures because they have not been actively seeking jobs. However, because the LFS collects data on the number of discouraged workers, an unemployment rate that includes them (R7) can be calculated.⁵

In the second quarter of 1992, discouraged workers numbered 141,000, up from 101,000 in the corresponding quarter of 1990. Nonetheless, as a share of the unemployed, discouraged workers did not increase in the recent recession. Throughout the 1990 to 1992 period, including discouraged workers among the unemployed yielded rates less than 1 percentage point above the official rate.⁶

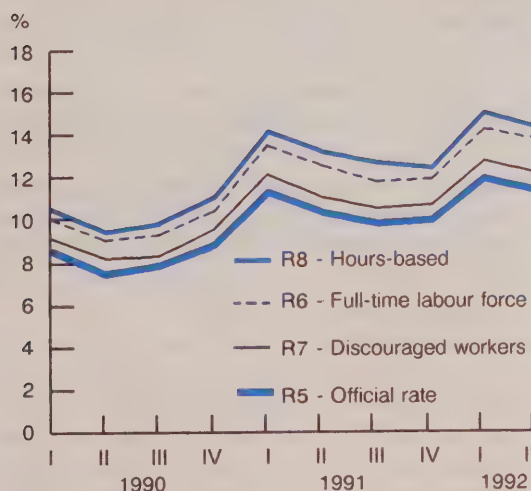
Hours lost

Unemployment can also be measured in terms of hours rather than people. Such calculations are based on "unutilized" hours, which include not only those lost to the economy through unemployment, but also the hours lost because some persons accept part-time jobs involuntarily, while others have their working time cut back temporarily. The hours-based unemployment rate (R8) is always well above the official figure because it includes those hours lost by persons classified as employed in the official rate.

Throughout most of the period from 1990 to 1992, the hours-based measure surpassed the other rates of unemployment. In the second quarter of 1992, it was 14.3%, up from 9.4% in the corresponding interval

Chart B

Including various dimensions of hidden unemployment yields rates above the official figure.



Source: Labour Force Survey

of 1990. This increase was somewhat faster than that of the official rate. As a result, the gap between the two measures widened, indicating proportionately more unutilized hours in early 1992 than in 1990.

A rate for part-time workers

The rate of unemployment of the part-time labour force (R9) focuses on persons seeking part-time jobs. This measure shows unemployed persons looking for part-time work as a proportion of the part-time labour force. The part-time labour force is made up of persons voluntarily working part time and unemployed persons seeking part-time jobs.

Of all the unemployment rates, the part-time rate is the most erratic over the course of a year, rising and dropping faster than the others. And unlike the other supplementary measures, its highs and lows do not coincide with those of the official rate. The unemployment rate of the part-time labour force soars in the summer when an influx of students swells the number of part-time job-seekers. It then drops back sharply in the autumn when they return to their studies.

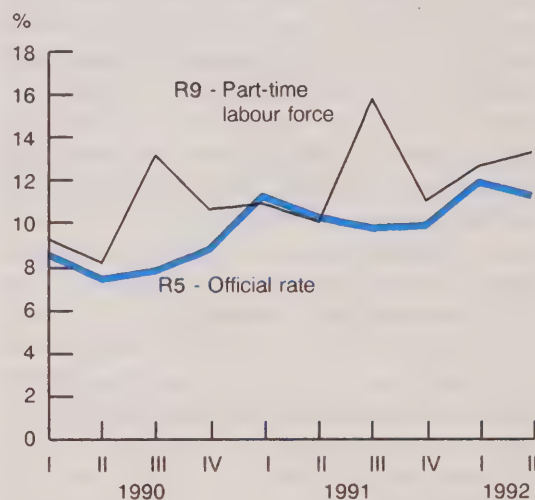
Like the other measures, however, the part-time rate was affected by the recession. For instance, in the summer (third quarter) of 1991, it was 15.8%, well above what it was the previous summer (13.1%). As well, in the first two quarters of the year, the part-time rate tends to be relatively low. But whereas it had fallen below the official rate in the first two quarters of 1991, it remained above the official figure in the corresponding periods of 1992 (Chart C).

Summary

The official unemployment rate is a summary measure based on a specific definition of what constitutes unemployment. To illustrate other dimensions of labour market behaviour, Statistics Canada

Chart C

The part-time unemployment rate differs markedly from the other measures, peaking in the summer months.



Source: Labour Force Survey

regularly publishes supplementary rates showing what unemployment would look like using different concepts. Some of the alternatives are higher than the official rate, and others are lower, but for the most part, they follow the same course over the business cycle.

By all measures, there was an overall increase in unemployment during the early 1990s. But, as the various alternatives indicate, this recession affected some groups more severely than others. Long-term unemployment and involuntary part-time work became more prevalent. And when unemployment is measured in terms of hours, the situation looks more serious. On the other hand, the unemployment rate of heads of families with young children did not rise as quickly as the official rate, and discouraged workers did not have a large effect on the overall unemployment picture.

□

Notes

¹ Each issue of *Perspectives on labour and income* provides annual figures for the alternative unemployment measures by province in "Key labour and income facts" (Nos. 8, 9, and 10).

² For further information on the Labour Force Survey or these alternative unemployment measures, contact Douglas Drew, Household Surveys Division, at (613) 951-4720.

³ To a great extent, the official unemployment rate has been defined in the same way since the Labour Force Survey began in 1945. This definition has withstood considerable study in Canada and abroad and is compatible with international standards.

⁴ For the formulas used to calculate these rates, see David (1989).

⁵ The figures on discouraged workers presented here are based on monthly Labour Force Survey data and differ from those derived from the annual Survey of Job Opportunities. The LFS identifies persons who looked for work in the previous six months but not in the past four weeks because they believe no work is available. The Survey of Job Opportunities covers a much broader group, since it includes all persons who report wanting a job, whether or not they have ever actively looked for one.

⁶ For a more detailed analysis of recent trends in discouraged workers, see Akyeampong (1992).

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Appendix

Calculating alternative unemployment rates

All rates are calculated using data from the Labour Force Survey (LFS).

Long-term unemployment (R1)

The measure that takes into account the duration of unemployment shows persons who have been unemployed 14 or more weeks as a percentage of the total labour force. Because R1 and the official unemployment rate have the same denominator (the total labour force), any gap between them is a result of the difference between the two numerators (the long-term unemployed versus all unemployed persons). As long-term unemployment becomes more prevalent – for example, during recessions – this gap narrows.

Unemployment of family heads (R2)

Because the LFS collects data on the family characteristics of respondents, the unemployment rate of family heads and their spouses can be calculated. R2 differs from the official rate in both its numerator (unemployed heads and spouses in families with children under age 16) and denominator (employed and unemployed heads and spouses in families with children under age 16). (The term "family head" reflects the respondent's perception of headship and is solely a statistical device which has no economic connotation.) With few exceptions, these heads are spouses in two-parent families or lone parents; therefore, R2 might be considered the parental unemployment rate.

Unemployment excluding full-time students (R3)

The unemployment rate that excludes full-time students is based on the premise that their main activity is likely studying and not working. As a result, their labour force attachment tends to be weak. R3 is calculated by eliminating full-time students from both the numerator (unemployed) and the denominator (labour force participants).

To reflect the academic cycle, calculation of R3 differs according to the time of the year. Throughout the year, students currently enrolled are identified by the LFS. In the summer months (May to September), 15 to 24 year-olds who attended school full time in the spring and are planning to return in the fall (returning students) are identified in a series of special questions. For the October to April period, R3 excludes full-time students; from May to September, R3 also excludes returning students.

Unemployment including the military (R4)

The LFS has traditionally excluded full-time members of the Armed Forces because they are seen as operating outside the market economy. To calculate R4, military personnel are included in the employed component of the labour force (the denominator).

Unemployment of the full-time labour force (R6)

The full-time labour force consists of persons working full-time (30 or more hours a week) and those wishing to do so. The latter includes unemployed persons seeking full-time work and persons working part time because they were unable to find full-time jobs (involuntary part-time workers).

The LFS asks unemployed persons who are actively seeking jobs if they want full- or part-time employment. Therefore, this group can easily be included in the calculation. However, not all unemployed persons are actively seeking work; depending on the time of year, 5% to 10% of the total unemployed are "non-seeking" layoffs or future starts (persons who have a job to start within four weeks). The LFS does not directly ask these unemployed non-seekers whether they want full- or part-time jobs. For inclusion in R6, this group is distributed between the "seeking full-time work" and "seeking part-time work" categories based on the proportions observed among those actively seeking work.

As well, in the calculation of R6, involuntary part-time workers are treated as partially unemployed. They are identified through the LFS question on "reason for usually working less than 30 hours per week." To include this aspect of unemployment in R6, one-half the number of involuntary part-time workers are counted as unemployed. One-half is used because it is fairly representative of the volume of work done by this group as measured by their average weekly hours compared with those of full-time workers.

Thus, the full-time labour force (the denominator) is the sum of persons employed full time, unemployed persons seeking full-time jobs, and all involuntary part-time workers. R6 shows unemployed full-time job-seekers (including a proportion of non-seekers) and one-half of involuntary part-time workers as a percentage of the full-time labour force.

Unemployment including discouraged workers (R7)

Some persons who would like to be employed are not actively seeking work because they believe that no work is available in their locality or that there is none suited to their skills. They are not counted in the official unemployment rate because they have not looked for work in the past four weeks (and they do not meet the layoff or future start conditions). The LFS, however, gathers information on persons who sought work in the previous six months, thereby indicating relatively recent efforts to find work. For R7, these discouraged workers are included in the labour force (denominator) and among the unemployed (numerator).

Also counted as unemployed in R7 are "former job-seekers" who report that they are not currently looking for work because they are waiting for replies from employers or for recalls to former jobs. To calculate R7,

Appendix – concluded

these groups, who are considered to be "on the margins" of the labour force, are also included in both the numerator and the denominator.

Unemployment based on hours (R8)

The official unemployment rate and the other supplementary measures are based on counts showing how many **persons** are unemployed. However, people do not supply or offer their services to the labour market in equal amounts. Some work, or are prepared to work, only a few hours per week, while others work, or wish to work, many more. An unemployment rate based on a simple count of persons cannot reflect such variations. But by using **hours** as the unit of measurement, it is possible to capture such differences.

R8, which shows unutilized hours as a percentage of total hours available to the labour market, measures the hours lost to the economy through unemployment and underemployment.

The "utilized" component of R8 consists of total hours worked per week. The "unutilized" component includes hours lost through unemployment, involuntary part-time employment, and short-time (hours temporarily cut back for economic reasons). Together, the utilized and unutilized components make up the

total labour supply (the denominator), measured in hours of labour "offered." The unutilized component (the numerator) consists of hours lost.

For unemployed persons seeking full-time jobs, hours lost are estimated using the average hours actually worked by full-time workers. For unemployed persons seeking part-time work, the average actual hours of part-time workers are used to estimate hours lost. For involuntary part-time workers, the estimate of hours lost is the difference between their average hours and the average hours of full-time workers. Finally, LFS questions on hours lost and reasons for absence provide a direct measure of hours lost because of working short-time.

Unemployment of the part-time labour force (R9)

The unemployment rate of the part-time labour force focuses on persons who want to work part time. R9 shows the number of unemployed persons seeking part-time jobs (the numerator) as a proportion of the part-time labour force. As in R6, a proportion of non-seekers (layoffs and future starts) is included among unemployed part-time workers. The part-time labour force (the denominator) consists of part-time job-seekers and persons working part time "voluntarily."

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Perspectives on labour and income

The quarterly for labour market information

Job-related moves

Mary Sue Devereaux and Georges Lemaitre

Labour markets operate in an environment of constantly changing demand for goods and services. In an economically booming region, the local labour market may not be able to supply either the number of workers or the skills needed for the jobs available. The resulting labour vacuum tends to attract workers from regions where conditions are less favourable. Conversely, in regions dependent on declining industries, the general scarcity of opportunities may prompt workers to look elsewhere for employment.

In theory, geographic mobility permits a redistribution of labour according to the needs of the labour market: workers move from regions with poor job opportunities to areas with better prospects (Sjaastad, 1962; Courchene, 1970; Vanderkamp, 1982).

In reality, however, the situation is not so simple. Labour cannot be packed in a box and shipped where it is most needed. Workers may lack the skills to fill the jobs available elsewhere, or they may lack information about labour markets in other regions. And even if they do have this information, they are not likely to respond immediately.

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Nonetheless, in 1987, more than 200,000 Canadians changed their residence because of their labour market situation. Over half had accepted a new job in a different location. Almost one-quarter had moved hoping to find work, while the remainder had been transferred by their employers.

But did workers really improve their economic position by moving? Were they working more hours after the move? Were their wages higher in their new location? This article begins by outlining the characteristics of people making job-related moves and their origins and destinations. It then reviews their pre- and post-move employment status and earnings.

The workforce is defined here as people who held at least one paid job in 1986 or 1987, and job-related movers are those who changed residence in 1987 (see *Data source and study population*). The analysis pertains to only one year in the middle of a period of economic expansion; mobility trends at a different point in the business cycle might be different.

Who moves?

In 1987, a total of 204,000 people from the ages of 16 to 69 moved for job-related reasons. In other words, there were 16 movers for every 1,000 workforce participants in this age range. Not all workers, however, were equally likely to make a job-related move (Table 1).

Data source and study population

The data for this article were taken from the 1986-87 longitudinal job file of the Labour Market Activity Survey (LMAS), which contains one record for each job held by a respondent during the year.

The Labour Market Activity Survey (LMAS)

The Labour Market Activity Survey (LMAS) was an annual longitudinal survey of 40,000 households. It was conducted in two panels, the first covering 1986 and 1987, and the second, 1988 to 1990. Information was collected on all jobs held by respondents during the reference year, including start and end dates, industry, occupation, absences, promotions, job search, wages, and reasons for absences and job terminations. Additional questions on whether respondents had moved and the reasons for doing so make it possible to analyze moves that were job-related.

The LMAS was discontinued after the 1990 reference year. It will be replaced by the Survey of Labour and Income Dynamics (SLID), a longitudinal survey with a planned observation period of six years. As well as covering the same content as the LMAS, SLID will include an income component and provide additional demographic data.

The study population

Only wage and salary jobs are included in the analysis; self-employed jobs are excluded. Respondents who had worked at a job of any kind during the various pre- and post-move intervals were considered to have been "employed," regardless of whether the job was full- or part-time, permanent or temporary. For example, 59% of people who moved to look for work were "employed" sometime in the eight weeks after the move, down from 69% in the eight weeks before the move.

As the observation period was extended to 16 and 24 weeks, the size of the sample dropped. For instance, information for the 24 weeks after a move had to be compared with the 24-week period before the move. Therefore, respondents who did not have a record of employment for a minimum of 24 weeks before the end of 1987 (and of the reference period) had to be excluded from the analysis.

Men had a greater tendency than women to relocate for labour market reasons, although among both sexes, such moves were more common at younger ages. Workers with at least some postsecondary education were also more likely to move. As well, single people tended to be more mobile than those with family responsibilities.

The prevalence of job-related moves among young adults with relatively few

Table 1

Job-related moves per 1,000 workforce participants by selected characteristics, 1987*

	Total	Men	Women
	(per thousand)		
Total	16	20	12
Age			
16-24 years	25	28	22
25-39 years	18	24	12
40-69 years	6	8	4
Education			
High school or less	12	15	9
Some postsecondary	24	29	19
Postsecondary certificate or diploma	18	27	10
University degree	24	26	21
Family type			
Unattached individuals	36	44	30
Married couples without children	15	20	9
Married couples with children	5	5	--
Others	7	--	--

Source: Labour Market Activity Survey

* Workers who held at least one paid job in 1986 or 1987.

family obligations is not surprising, since these people are less affected by the monetary and non-monetary costs of moving. In a time when dual-earner families are the rule rather than the exception, married couples may not relocate if the mover's spouse cannot find, or expect to find, satisfactory employment in the new area. Couples with children face the added problem of schooling disruptions. And wide regional discrepancies in the cost of living may be a greater deterrent for families than for individuals.

Different reasons ... different movers

The characteristics of people who made job-related moves in 1987 varied depending on

whether they were searching for employment, taking a transfer, or accepting a new position (Table 2).

The youngest group were those who moved hoping to find employment. Half of these job-seekers were younger than age 25, compared with 41% of people who moved to accept a new job, and 22% of those who were transferred by their employers.

The educational attainment of various types of movers also differed sharply. Fully 26% of transferees and 23% of people accepting a new job were university graduates. By contrast, a substantial majority (61%) of job-seekers had not been formally educated beyond high school.

As well, the family type of different kinds of movers varied. In 1987, 54% of job-seekers and 48% of those who moved to

accept a new position were unattached individuals.¹ On the other hand, the majority (58%) of transferees were partners in married-couple families.

Origins and destinations

Most labour market-related moves occurred within the same region.² In 1987, only around a quarter of all job-related moves took people from one region to another.

The percentage of moves that were interregional, however, varied with the reason for relocation. Job-seekers were the movers most likely to leave their region of origin, with 39% going to another region. The proportion of transfers that were interregional was close to the 26% average for all job-related moves. In contrast, just

Table 2
Distribution and selected characteristics of people making job-related moves by type of move, 1987

	Total workforce	Total job- related movers	Moved to accept a job	Moved to look for work	Transferred by employer
Total ('000)	12,611	204	111	50	42
(%)	100	100	100	100	100
Sex					
Men	53	65	63	62	73
Women	47	35	37	38	27
Age					
16-24 years	25	39	41	50	22
25-39 years	42	48	46	36	66
40-69 years	33	13	13	--	--
Education					
High school or less	60	46	42	61	38
Some postsecondary	12	18	18	18	--
Postsecondary certificate or diploma	15	17	17	--	21
University degree	14	20	23	--	26
Family type					
Unattached individuals	21	48	48	54	40
Married couples (with and without children)	71	49	49	40	58
Others	8	--	--	--	--

Source: Labour Market Activity Survey

19% of those who accepted a new job went to another region.

Ontario gained residents from job-related moves, while Quebec and British Columbia neither gained nor lost, with almost as many migrants entering these regions as leaving them. On the other hand, both the Prairies and the Atlantic Region suffered net losses, as job-related moves took more people out of these regions than were replaced.

Workers, particularly job-seekers, would generally be expected to move from high unemployment areas to parts of the country where unemployment rates are low. To some extent, this occurred in 1987. Ontario, with the lowest regional unemployment rate (6.1%), had a net influx of about 8,600 job-seekers, while the Atlantic Region, where unemployment was 13.9%, had a net outflow of about 4,800. On the other hand, although the Prairies had a relatively low unemployment rate (8.6%), this region also had a net loss of 6,800 job-seekers. This suggests that factors other than unemployment rates, such as the mix of industries in a particular region, may influence workers' decisions to move.

Employment outcomes

Most people who move for labour market reasons likely want to improve their employment situation and earnings. On the whole, these hopes materialized in 1987: more migrants had jobs after a move than before it, and they tended to be earning more. However, outcomes differed sharply depending on whether the movers accepted a new job, relocated to look for work, or had been transferred (Chart A).

As might be anticipated, workers who moved to accept employment experienced a definite improvement in their employment status: 95% of them had a job in the eight-week post-move period, compared with 86% in the corresponding pre-move interval.

Chart A

In 1987, job-seekers were the least likely to have worked after moving.



Source: Labour Market Activity Survey

By contrast, the employment status of job-seekers declined immediately after they moved. Just 59% of them worked in the eight weeks after relocating, down from the pre-move figure of 69%.

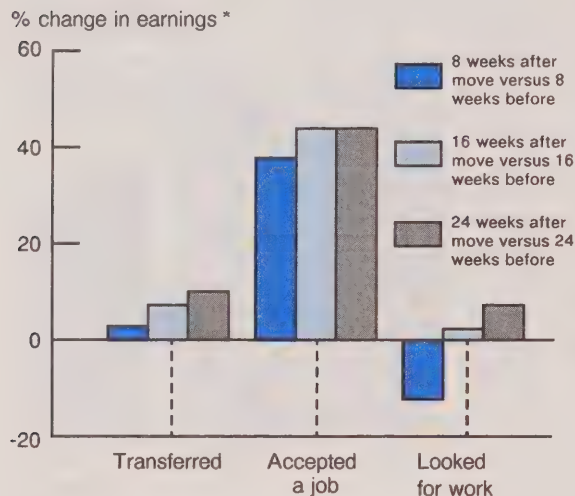
As expected, there was little difference between the pre- and post-move employment status of people who had been transferred. In the eight weeks before and eight weeks after moving, more than 90% of these people worked at a job. The slight drop in the immediate post-move period may be attributable to disruptions associated with moving: taking time off to find and settle into a new home, enrolling children in school, and so on.

The bottom line on earnings

For most people, job-related moves brought increased earnings. Post-move earnings, however, varied with the reasons

Chart B

Moving to accept a job brought the largest increase in earnings in 1987.



Source: Labour Market Activity Survey

* Represents aggregate earnings of movers in each period.

underlying the move (Chart B). Not unexpectedly, the groups most likely to have a job after moving also had higher earnings, mainly because collectively they worked more hours.

The greatest gains were made by those who moved to accept a new job. In the eight weeks after moving, the earnings of this group were 38% higher than they had been in the eight weeks prior to the move. However, a relatively large proportion (14%) of people who moved to accept a new job had not worked in the eight-week pre-move period, and therefore had no earnings during this interval. If these people are excluded from the calculations and only those who had worked in the earlier period are included,

the earnings gain amounts to 26%. This increment might almost be considered a kind of "reservation wage" for job-related moves; that is, the average wage or salary increase needed to induce workers to relocate.

On the other hand, the earnings of people who moved in search of work dropped sharply. In the eight weeks after moving, job-seekers earned 12% less than they had before. This overall drop reflects the high proportion of job-seekers (41%) who did not work in the eight-week post-move period, and thus had no earnings. However, the earnings of those who worked both before and after relocation increased 10%.

Being transferred had the least effect on earnings, with a post-move improvement of just 3%. As the settling-in period lengthened, the increment rose to about 10%. But rather than being directly attributable to moving, these gains may reflect normal salary raises brought about by contract settlements and regular increases.

Summary

In 1987, a year when the Canadian economy was expanding, more than 200,000 people changed their residence for labour market reasons. They were, on average, younger, better-educated, and less likely to have family responsibilities than the workforce overall. The majority of these people moved within their own region; those moves that were interregional tended to be out of the Atlantic and Prairie provinces and into Central Canada.

Relocation had a positive effect on the employment status and earnings of most movers. However, outcomes varied according to whether the move was made to accept a transfer or a job offer, or to search for work. □

Notes

¹ Unattached individuals are persons living alone or in a household where they are not related to other household members by blood, marriage, or adoption.

² The Atlantic provinces, Quebec, Ontario, the Prairie provinces, and British Columbia are all regions. Because of high sampling variability for some provinces, estimates of the number of interprovincial moves cannot be shown.

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What's new?

Just released

New diffusion indexes to measure changes in labour market

The Survey of Employment, Payrolls and Hours (SEPH) recently introduced a new feature in its regular publications: diffusion indexes for several of its most important data series. The diffusion index reveals how broadly the change in a given total is spread across the industries that make up that total, in other words, how widely diffused the change is.

For example, between November 1990 and November 1991, industrial aggregate employment dropped from 10.8 to 10.2 million. In the 214 industries covered by SEPH, employment rose in 54 and declined in the remaining 160. The diffusion index is calculated as $54/214 = 0.25$, meaning that employment increased in 25% of the covered industries. This is to be expected in the economic downturn in 1991, but even during the expansionary mid-1980s the diffusion index never rose above 0.77. Although annual increases in total employment exceeded 3% per year during that time, it was not growing in almost one-quarter of industries.

As these examples show, the closer the index value is to 1, the more broad-based the increase; the closer to 0, the narrower the distribution. By treating change in one industry as equal to change in another

regardless of their respective sizes, the index filters out the influence of large variations in a single (usually large) industry which can mask the extent of developments across the labour market.

The variables for which diffusion indexes are calculated are: employment, average weekly earnings, average hourly earnings, and average weekly hours (including overtime). (Earnings data are in constant dollars.) The indexes are calculated separately for firms with more than 200 employees and for those with fewer, and measure year-to-year change. A full description of the methodology underlying the diffusion index is provided in the September 1992 issue of Catalogue 72-002. □

New report examines why students quit high school

The first of two special reports analyzing the results of the 1991 Survey of School Leavers has just been released. The main emphasis is the comparison of young people who did not finish high school with those who did, from their experiences at school and at home (academic performance, living arrangements) to their experiences in the labour market (type of work, unemployment, income). About 9,500 young people aged 18 to 20 were interviewed for the survey, and were divided into three groups: non-completers (did not finish high school), graduates, and continuers (still in high school).

The survey placed particular emphasis on the experiences of non-completers. Over one in five students left school without graduating because they preferred working to attending classes; another one in five left because they were bored. (For highlights of the preliminary results, see "What's new?" in *Perspectives on labour and income*, Summer 1992.)

The analytical framework of the report can be described as a "student flow" model, which isolates factors associated with, and the effects of, leaving school before graduation: socio-economic and family status, province of residence, sex, academic performance and working while enrolled. In a series of analytical articles, the report discusses:

- Demographic and family characteristics of school leavers.
- Reasons for leaving school and for returning after initially dropping out.
- School experience (academic performance, class participation).
- Work experience while attending school.
- "Deviant behaviour" while attending school (drug or alcohol use, skipping class).
- Labour market experiences after leaving school.
- General quality of life after leaving school.

The report also reviews current literature on drop-outs and assesses its relevance to the situation in Canada. One chapter describes different methods of calculating drop-out rates and discusses how the various methods affect the conclusions that can be drawn from the data. The final

chapter presents some of the issues raised by the survey findings.

The first report (Catalogue 81-576) will soon be available. To order, write to Publication Sales, Statistics Canada, Ottawa, K1A 0T6; fax (613) 951-1584.

N.B. An article adapted from this report focusing on the impact of hours spent working on drop-out behaviour will be published in an upcoming issue of *Perspectives*. □

1990 neighbourhood family income profiles

The Small Area and Administrative Data Division (SAADD) has recently updated and expanded its small area family database, and a series of three new profiles is now available. Based on tax-file data, they carry a range of demographic and income characteristics of families and individuals for areas as small as urban FSAs (Forward Sortation Areas, the first three characters of the postal code), rural postal code regions and postal walks. SAADD developed the family data series to meet the needs of professionals who design social policy, deliver services, plan marketing campaigns and provide similar services.

The three profiles cover: husband-wife families (married or common-law), lone-parent families, and non-family persons. Data are provided for a variety of characteristics, including: age distribution; age and number of children; family income by age of older spouse, by family size, and by source of income; and wife's employment income as a proportion of combined husband-wife employment income. (Obviously, not all variables are relevant to all family types.)

The statistical tables in the profiles have been updated to include 1990 tax data. The range of information is shown in this

portrait of families and individuals living in northeastern Surrey, British Columbia, as covered by the FSA "V3R":

- 60% of the 11,440 husband-wife families in the neighbourhood had children; in 73% of these families, all the children were under 18.
- The median total income for husband-wife families was \$48,500, compared with \$19,600 for lone-parent families and \$16,700 for non-family persons.
- Husband-wife families in which the oldest adult was 45 to 54 years of age had the highest median total income (\$61,500).
- Among lone-parent families, those in which the parent was 65 years or older had the highest median total income (\$40,900).
- 2,910 non-family persons reported income from self-employment totalling \$28.4 million, accounting for 11% of those reporting employment income (this figure does not represent the number of non-family persons earning income exclusively from self-employment).

The 1990 Family Profile series is available from Customer Services, Small Area and Administrative Data Division, at (613) 951-9720; fax (613) 951-4745. □

1989 Labour Market Activity Survey profiles of Canadian workers

Several portraits of Canadian workers have been released in the last few months, based on the results of the 1989-90 Labour Market Activity Survey (LMAS). Four reports, each subtitled *A profile of their 1989 labour*

market experience, present data on men, women, youths (aged 16 to 24) and older workers (aged 55 to 64).

The bulk of the 30- to 35-page profiles consists of data tables for Canada and the provinces, but each also includes 8 to 10 pages of descriptive analysis that highlights the survey's main findings. The variables include participation rates, full-time/part-time status, employment earnings, duration of employment in latest job, occupation, firm size, satisfaction with amount of time worked, unemployment and duration of joblessness. Some data are also shown by demographic characteristics such as marital status and presence of children.

Canada's women (Catalogue 71-205), *men* (71-206), *youth* (71-207) and *older workers* (71-208): *A profile of their 1989 labour market experience* is available for \$12 per copy. To order, write to Publication Sales, Statistics Canada, Ottawa, K1A 0T6; fax (613) 951-1584. □

CLMPC involved in business/labour consultation on productivity and competitiveness

The Canadian Labour Market and Productivity Centre (CLMPC) was established by the federal government in 1984 to facilitate consultation between business and labour. It is the first permanent organization in Canada mandated to build consensus between the two groups on public policy issues, and on their policies and practices. As a bipartite institute, the CLMPC is in a unique position to contribute to the debate on labour market performance, productivity and competitiveness, and to recommend ways to improve them.

The two constituencies equally and actively shape each project. The Centre works in a number of areas, undertaking consultations and projects with all the

stakeholders in labour market and productivity issues from workers to community groups, organizing national and international joint business and labour forums, and conducting studies on specific industry and employment issues. The Centre's publications program disseminates the results of constituency and bipartite projects, joint task force reports, forum and conference proceedings, and ongoing analysis.

Of the Centre's four regular publications, the *Quarterly review* is probably of most interest to *Perspectives* readers. Introduced in 1988, the review covers general economic and labour market trends, as well as developments in productivity and competitiveness. Each issue also includes a feature article devoted to a specific topic; past features have explored education and training, regional development and economic restructuring. Most data are drawn from Statistics Canada, the Organisation for Economic Cooperation and Development, and the U.S. Bureau of Labor Statistics.

The CLMPC's other regular publications are directed towards a wide audience. The CLMPC newsletter *Working together* covers ongoing projects and activities. *The labour research exchange* offers a digest of research in productivity and labour market analysis, and is designed primarily for research and education staff in the labour movement. *The Canadian business bulletin* is business oriented, and provides up-to-date information on research in the areas of competitiveness and productivity.

For more information about the Canadian Labour Market and Productivity Centre and its publications, call Ellen Wathen, Director of Communications, at (613) 234-0505. □

Latest report in demographic series assesses economic impact of population change

The 1992 edition of *Report on the demographic situation in Canada* examines the general state of current population trends. Part one provides analysis of growth, migration, composition of the population, and nuptiality and fertility, with special consideration devoted to the issues of living alone, lone parents, and abortion.

Part two of the report analyzes the impact of demographic shifts on economic trends, focusing on the tremendous changes that have occurred in life expectancy and population growth over the past two centuries. The analysis demonstrates how the increase in life expectancy in the last century, and control of fertility, are linked to the entry of women into the workforce in ever greater numbers, and suggests that some analysts may have underestimated the effect of "middle age" on the labour market participation of women.

Some highlights of this section of the report are:

- Working life is now about 40 years compared with 23 in the 18th century; in 1991, adults aged 15 to 64 comprised 68% of the population, compared with 62% in 1951 and 55% in 1861.
- Women now spend less than two years of their reproductive lives pregnant, thus giving them a number of working years available similar to that for men.
- Growth in the women's participation rate in the labour market began in the 20th century, and the proportion of all women in the labour force rose steadily from 15% in 1901 to 30% in 1961 and 58% in 1991.

- In 1961, the highest female labour force participation rate (50%) was found among 20 to 24 year-olds, indicating that paid work was largely a phenomenon among single women. Now, women's marital status is immaterial: in fact, the rate for mothers of children under 16 increased from 43% in 1976 to 70% in 1991.

Report on the demographic situation in Canada 1992 (Catalogue 91-209E) is available for \$26 from Publication Sales, Statistics Canada, Ottawa, K1A 0T6; fax (613) 951-1584. □

New report looks at child care needs of working parents

The second report on the results of the 1988 National Child Care Survey is now available. *Parental work patterns and child care needs* was written by the National Child Care Network, a consortium of child care experts from four Canadian universities. It describes work schedules of parents with children under age 13, including their work status, occupation and actual hours; it also estimates child care needs, based on the age of the children and the parents' work hours. (For a description of the Child Care Survey, see "Sources" in *Perspectives on labour and income*, Spring 1991.)

The report's findings include:

- Both parents worked in almost half the Canadian families with a child under age 6.
- Most working parents were employed full time; in two-thirds of families with children younger than 3, both parents worked 30 or more hours a week.
- Fewer than one-third of both parents in dual-earner families had a "standard" Monday to Friday, daytime job.

- Over 1.6 million families needed full- or part-time care for one or more children younger than 13.

- Of those children needing full-time care while their parents worked, roughly 34% were under 6, 40% were 6 to 9 years old and 45% were 10 to 12 years old.

Parental work patterns and child care needs (Catalogue 89-529E) is available for \$25 from Publication Sales, Statistics Canada, Ottawa, K1A 0T6; fax (613) 951-1584.

N.B. "Who's looking after the kids?" in *Perspectives on labour and income* (Summer 1991) examined the type of child care used by working mothers, hours of use and cost of care by family income, using data from the National Child Care Survey. □

Pay and benefits of Quebec public servants

The Institut de recherche et d'information sur la rémunération (IRIR) recently released its eighth report on total pay and benefits earned by Quebec's public sector workers. The analysis compares public servants with other Quebec employees, and focuses on changes between 1990 and 1991.

The study uses data from establishments with 200 or more employees, basing the comparison on 74 representative jobs. It concludes that in 1991 total compensation in the public sector (including pay and benefits) was 4% higher than that of other Quebec employees for all 74 benchmark jobs studied, and attributes the gap mainly to the shorter working hours and greater amount of paid leave found in the public sector. The situation remained essentially the same in both 1990 and 1991, except for office employees, whose comparative position deteriorated.

The Institut states that, overall, public sector wages and salaries are equivalent to those in the private sector, but only because public servants received pay adjustments in January 1990 and again in January 1991, in conformity with government policy; without them, public sector salaries would have fallen below those of other employees.

The full report is available in French for \$53.50 (GST included). For more information about the report, or the mandate of the Institut de recherche et d'information sur la rémunération, contact the IRIR at (514) 288-1394; fax (514) 288-3536. □

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Key labour and income facts

The following selection of labour and income indicators is drawn from 12 sources and includes published and unpublished annual data. These indicators appear in every issue.

The latest annual figures are always shown; as results become available, the indicators are updated so that every issue contains new data. An indicator updated or revised since the last issue is "flagged" with an asterisk.

Data sources

The indicators are derived from the following sources:

1-11 & 15	Labour Force Survey Frequency: Monthly Contact: Doug Drew (613) 951-4720	29-31	Labour Canada, major wage settlements Frequency: Quarterly Contact: Information (819) 997-3117
12-14	Labour Market Activity Survey Frequency: Annual Contact: Stephan Roller (613) 951-4625	32-34	Labour income (Revenue Canada, Taxation-based statistics, Survey of Employment, Payrolls and Hours and other surveys) Frequency: Quarterly Contact: Ed Bunko (613) 951-4048
16	Absence from Work Survey Frequency: Annual Contact: Denis Lefebvre (613) 951-4600	35-45	Survey of Consumer Finances Frequency: Annual Contact: Kevin Bishop (613) 951-2211
17	Workers' Compensation statistics Frequency: Annual Contact: Joanne Proulx (613) 951-4040	46-52	Household Facilities and Equipment Survey Frequency: Annual Contact: Penny Barclay (613) 951-4634
18	Help-wanted Index Frequency: Monthly Contact: André Picard (613) 951-4045	53-54	Small Area and Administrative Data Frequency: Annual Contact: Customer Services (613) 951-9720
19-20	Unemployment Insurance statistics Frequency: Monthly Contact: André Picard (613) 951-4045		
21-28	Survey of Employment, Payrolls and Hours Frequency: Monthly Contact: Cindy Ingalls (613) 951-4090		

Notes on the method of deriving certain indicators are given at the end of the table.

Additional data

The table provides at the most two years of data for each indicator. A longer time series (generally 10 years) for this set of indicators can be obtained, on paper or diskette, at a cost of \$50. (A more extensive explanation of the indicators is also available.) This 10-year data set is updated annually in April. For information, contact Jeannine Usalcas at (613) 951-6889; fax (613) 951-4179.

Key labour and income facts

No.	Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
Labour market							
1 Labour force	'000	1990	13,681	242	65	424	331
		1991	13,757	241	64	422	327
Change	%		0.6	-0.4	-1.7	-0.4	-1.0
2 Participation rate	%	1990	67.0	56.0	66.0	62.1	59.8
		1991	66.3	55.3	65.1	61.3	58.6
3 Employed	'000	1990	12,572	201	55	379	291
		1991	12,340	197	53	371	286
Change	%		-1.8	-2.0	-3.9	-2.1	-1.7
4 Proportion of employed working part time	%	1990	15.4	11.3	15.5	15.8	14.6
		1991	16.4	12.3	16.2	17.0	15.3
5 Proportion of part-timers wanting full-time work	%	1990	22.4	52.3	35.5	33.1	37.9
		1991	27.7	59.1	39.3	38.6	39.8
6 Unemployed	'000	1990	1,109	41	10	45	40
		1991	1,417	44	11	51	42
Change	%		27.7	7.4	11.2	13.9	4.0
7 Official unemployment rate	%	1990	8.1	17.1	14.9	10.5	12.1
		1991	10.3	18.4	16.8	12.0	12.7
Alternative measures of unemployment							
8 Unemployed 14 or more weeks as a proportion of the labour force	%	1990	3.1	8.3	5.6	4.2	4.6
		1991	4.6	9.3	6.3	5.2	5.2
9 Unemployment rate:							
- of persons heading families with children under age 16	%	1990	7.3	16.5	15.3	9.3	11.2
		1991	9.1	17.0	16.9	10.5	11.8
- excluding full-time students	%	1990	8.0	17.2	15.4	10.5	12.0
		1991	10.1	18.4	17.3	11.9	12.6
- including full-time members of the Canadian Armed Forces	%	1990	8.1	17.0	14.7	10.2	11.9
		1991	10.2	18.3	16.7	11.7	12.5
- of the full-time labour force	%	1990	9.6	19.7	18.2	12.8	14.6
		1991	12.4	21.6	20.4	15.0	15.5
- of the part-time labour force	%	1990	10.1	15.6	7.6	12.9	13.5
		1991	11.8	16.2	10.2	13.9	13.6
- including persons on the margins of the labour force	%	1990	8.7	20.3	16.4	11.3	14.0
		1991	11.0	22.2	18.4	13.0	14.8
10 Underutilization rate based on hours lost through unemployment and underemployment	%	1990	10.2	20.3	18.5	13.5	15.4
		1991	13.0	22.3	20.9	15.7	16.4
11 Proportion unemployed six months or longer	%	1990	18.4	26.8	--	18.5	17.6
		1991	23.3	28.2	--	21.1	21.4

See Notes and definitions at end of table.

Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
3,399	5,268	544	483	1,324	1,601	..	..	1990	'000	1
3,392	5,276	541	484	1,357	1,652	..	..	1991		
-0.2	0.2	-0.6	0.3	2.5	3.2	..	..		%
64.3	69.4	67.6	66.8	72.1	66.0	..	..	1990	%	2
63.4	68.3	66.9	67.1	72.5	66.4	..	..	1991		
3,055	4,937	505	449	1,231	1,469	..	..	1990	'000	3
2,987	4,770	494	449	1,246	1,489	..	..	1991		
-2.2	-3.4	-2.3	-0.1	1.2	1.4	..	..		%
13.8	15.8	18.2	17.1	15.0	16.7	..	..	1990	%	4
14.9	16.9	19.2	17.7	15.2	18.0	..	..	1991		
33.1	14.5	21.8	27.5	19.3	21.4	..	..	1990	%	5
36.7	21.8	29.7	31.8	21.3	25.7	..	..	1991		
345	331	39	34	93	132	..	..	1990	'000	6
405	506	48	36	111	163	..	..	1991		
17.6	53.1	21.0	5.5	19.7	23.6	..	..		%
10.1	6.3	7.2	7.0	7.0	8.3	..	..	1990	%	7
11.9	9.6	8.8	7.4	8.2	9.9	..	..	1991		
4.5	2.0	2.8	2.5	2.2	2.9	..	..	1990	%	8
5.8	4.2	3.9	2.8	3.0	4.1	..	..	1991		
8.6	5.6	5.9	6.7	6.5	7.7	..	..	1990	%	9
10.4	8.3	7.4	6.6	7.5	9.0	..	..	1991		
10.1	6.0	6.9	6.9	6.8	8.1	..	..	1990	%	
11.9	9.3	8.7	7.2	8.0	9.7	..	..	1991		
10.1	6.2	7.2	7.0	7.0	8.2	..	..	1990	%	
11.9	9.5	8.7	7.3	8.2	9.8	..	..	1991		
12.2	7.1	9.1	9.1	8.1	9.8	..	..	1990	%	
14.5	11.2	11.5	9.9	9.5	12.2	..	..	1991		
11.8	9.1	8.9	9.5	10.5	10.4	..	..	1990	%	
13.1	11.6	11.0	10.5	11.1	10.6	..	..	1991		
11.3	6.5	7.7	7.5	7.3	8.6	..	..	1990	%	
13.3	9.9	9.3	7.9	8.5	10.2	..	..	1991		
12.6	7.7	9.7	9.8	8.7	10.4	..	..	1990	%	10
14.9	11.9	12.1	10.7	10.1	12.8	..	..	1991		
23.7	13.8	19.3	16.7	15.3	16.5	..	..	1990	%	11
27.4	22.7	22.3	18.0	17.9	20.9	..	..	1991		

See Notes and definitions at end of table.

Key labour and income facts

No.		Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
Other labour market indicators								
*12	Employed at some time in the year, men, age 16 to 69	'000	1989	7,707	158	37	241	197
	- as proportion of male population age 16 to 69	%		85.8	81.3	87.0	83.5	82.1
		'000	1990	7,635	154	36	234	197
		%		83.9	79.4	85.8	80.2	81.3
	Employed at some time in the year, women, age 16 to 69	'000	1989	6,364	124	32	197	164
	- as proportion of female population age 16 to 69	%		69.2	63.9	74.6	64.4	66.0
		'000	1990	6,354	122	31	195	161
		%		68.4	62.9	72.2	63.2	64.6
*13	Unemployed at some time in the year, men, age 16 to 69	'000	1989	1,399	55	10	57	63
	- as proportion of male population age 16 to 69	%		15.6	28.1	23.4	19.6	26.2
		'000	1990	1,434	53	10	53	51
		%		15.8	27.3	24.1	18.2	21.3
	Unemployed at some time in the year, women, age 16 to 69	'000	1989	1,218	45	10	48	50
	- as proportion of female population age 16 to 69	%		13.3	23.1	22.9	15.6	20.1
		'000	1990	1,157	45	9	45	41
		%		12.5	23.2	19.9	14.7	16.6
*14	Full-time, full-year male paid workers	'000	1989	3,897	53	13	120	76
			1990	3,867	57	14	120	90
	Full-time, full-year female paid workers	'000	1989	2,613	33	11	76	52
			1990	2,674	39	12	84	61
15	Days lost per full-time worker per year through illness or for personal reasons	days	1990	9.4	10.1	7.3	9.1	9.3
			1991	9.4	10.6	8.0	9.7	9.4
16	Proportion of paid workers absent two or more consecutive weeks because of illness or accident	%	1990	6.7	4.7	4.4	6.8	6.5
			1991	6.3	5.0	4.8	5.6	6.5
17	Workers receiving Workers' Compensation for time-loss injuries	'000	1989	621	11	2	14	13
	Change	%	1990	587	10	3	13	13
				-5.5	-3.0	4.1	-7.4	-4.4
18	Help-wanted Index (1981 = 100)		1990	114	153	133	161	162
			1991	75	100	106	111	116

See Notes and definitions at end of table.

Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
1,949	2,939	294	267	731	894	..	..	1989	'000	12
83.4	81.1	84.7	84.8	87.8	84.9	..	..		%
1,864	2,927	298	272	745	909	..	..	1990	'000	
78.9	86.4	85.1	87.4	88.1	84.4	..	..		%
1,548	2,466	251	226	623	733	..	..	1989	'000	
64.1	72.1	70.8	71.3	75.2	68.5	..	..		%
1,508	2,481	253	221	628	754	..	..	1990	'000	
61.9	71.6	71.3	71.5	74.9	68.8	..	..		%
438	389	59	43	130	156	..	..	1989	'000	13
18.7	11.7	17.0	13.7	15.7	14.9	..	..		%
446	453	57	42	108	161	..	..	1990	'000	
18.9	13.4	16.2	13.4	12.7	15.0	..	..		%
343	371	47	35	95	176	..	..	1989	'000	
14.2	10.8	13.4	11.1	11.5	16.4	..	..		%
328	372	44	34	91	148	..	..	1990	'000	
13.5	10.7	12.3	11.0	10.9	13.5	..	..		%
978	1,570	149	123	355	460	..	..	1989	'000	14
939	1,600	135	106	356	449	..	..	1990		
657	1,081	101	82	260	261	..	..	1989	'000	
648	1,128	98	76	245	283	..	..	1990		
10.5	9.5	9.0	8.0	7.3	8.5	..	..	1990	days	15
10.9	9.0	9.3	8.5	7.9	8.7	..	..	1991		
7.5	6.7	6.4	5.8	5.2	6.8	..	..	1990	%	16
7.8	6.0	6.1	5.0	4.9	6.2	..	..	1991		
219	201	22	14	45	80	..	1	1989	'000	17
205	184	21	14	39	84	..	1	1990		
-6.4	-8.2	-1.2	-1.2	-13.6	6.1	..	-17.6		%	
127	111	97	106	65	116	..	..	1990		18
85	69	66	79	41	80	..	..	1991		

See Notes and definitions at end of table.

Key labour and income facts

No.	Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
Unemployment insurance							
19	Total beneficiaries	'000	1990 1,121	74	13	56	58
			1991 1,365	80	15	63	65
	Change	%	21.8	8.4	13.1	12.9	11.8
20	Regular beneficiaries without reported earnings	'000	1990 855	59	10	42	47
			1991 1,024	63	11	46	51
	Change	%	19.8	7.3	12.2	11.4	9.9
Earnings (including overtime) and hours							
*21	Average weekly earnings in current dollars	\$	1990 508.07	476.91	416.92	456.09	456.51
			1991 531.58	499.24	429.29	476.30	480.62
	Change	%	4.6	4.7	3.0	4.4	5.3
*22	Average weekly earnings in 1986 dollars	\$	1990 425.16	419.08	356.04	388.16	391.52
			1991 421.22	413.28	340.98	381.96	386.97
	Change	%	-0.9	-1.4	-4.2	-1.6	-1.2
*23	Average weekly earnings of salaried employees in current dollars	\$	1990 632.55	581.18	533.28	566.34	569.64
			1991 665.75	603.37	560.75	605.37	603.32
	Change	%	1.3	3.8	5.2	6.9	5.9
*24	Average weekly earnings of salaried employees in 1986 dollars	\$	1990 529.33	510.70	455.41	481.99	488.54
			1991 527.54	499.48	445.39	485.46	485.76
	Change	%	-0.3	-2.2	-2.2	0.7	-0.6
*25	Average weekly earnings of hourly paid employees in current dollars	\$	1990 396.64	363.31	275.88	353.69	365.61
			1991 409.98	379.14	284.23	363.17	382.63
	Change	%	3.4	4.4	3.0	2.7	4.7
*26	Average weekly earnings of hourly paid employees in 1986 dollars	\$	1990 331.92	319.25	235.59	301.01	313.56
			1991 324.87	313.86	225.76	291.23	303.08
	Change	%	-2.1	-1.7	-4.2	-3.3	-3.3
*27	Average weekly hours of hourly paid employees	hrs	1990 31.3	34.7	31.4	32.2	33.6
			1991 30.8	33.8	31.0	31.6	33.3
*28	Average weekly overtime hours of hourly paid employees	hrs	1990 1.0	1.2	0.5	0.6	0.8
			1991 0.9	1.2	0.4	0.6	0.7
Major wage settlements							
29	Number of agreements		1990 504	11	1	7	18
			1991 528	15	4	19	24
30	Number of employees	'000	1990 1,149	18	1	15	29
			1991 1,325	52	7	29	42
31	Effective wage increase in base rates	%	1990 5.7	7.0	5.8	5.4	6.2
			1991 3.6	2.3	5.5	0.5	2.5

See Notes and definitions at end of table.

Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
368	280	35	27	74	132	2	2	1990	'000	19
427	391	41	30	90	159	2	2	1991		
16.3	39.8	17.4	11.1	20.7	19.9	9.4	21.5		%	
293	202	26	20	56	98	1	1	1990	'000	20
330	286	28	22	67	116	1	2	1991		
12.5	41.9	10.9	7.6	19.8	17.8	8.0	18.9		%	
497.03	529.27	461.98	445.84	504.84	514.65	587.87	665.90	1990	\$	21
518.50	555.83	477.90	465.33	532.04	534.88	634.28	705.85	1991		
4.3	5.0	3.5	3.7	5.4	3.9	7.9	6.0		%	
422.29	433.83	388.54	373.09	428.92	437.63	..	..	1990	\$	22
410.21	435.60	382.32	370.19	427.00	432.05	..	..	1991		
-2.9	0.4	-1.6	-0.8	-0.5	-1.3	..	..		%
600.37	665.85	588.65	591.68	650.27	628.06	695.12	753.38	1990	\$	23
630.62	701.53	611.79	615.88	688.98	660.39	761.59	790.35	1991		
5.0	5.4	3.9	4.1	6.0	5.2	9.6	4.9		%	
510.08	545.78	495.08	495.13	552.48	534.06	..	..	1990	\$	24
498.91	549.79	489.43	490.04	552.95	533.43	..	..	1991		
-2.2	0.7	-1.1	-1.8	0.1	-0.1	..	..		%
398.44	408.29	353.76	322.16	366.17	427.28	436.93	547.02	1990	\$	25
413.58	424.56	358.49	327.46	377.07	433.80	467.01	583.65	1991		
3.8	4.0	1.3	1.7	3.0	1.5	6.9	6.7		%	
338.52	334.66	297.53	269.59	311.10	363.33	..	..	1990	\$	26
327.20	332.73	286.79	260.51	302.62	350.40	..	..	1991		
-3.3	-0.6	-3.6	-3.4	-2.7	-3.6	..	..		%
32.2	31.2	31.2	28.5	30.1	30.5	34.1	33.3	1990	hrs	27
31.8	30.8	30.2	28.0	29.5	29.4	31.3	33.5	1991		
0.9	1.1	0.8	0.8	1.3	1.0	2.3	3.3	1990	hrs	28
0.8	0.9	0.7	0.7	1.3	0.9	1.9	3.4	1991		
101	206	14	8	56	32	..	..	1990		29
102	152	41	5	43	55	..	..	1991		
405	396	14	20	103	32	..	..	1990	'000	30
449	268	75	11	56	72	..	..	1991		
4.8	6.5	5.1	3.9	5.6	7.0	..	..	1990	%	31
3.2	5.8	2.4	4.4	5.3	5.0	..	..	1991		

See Notes and definitions at end of table.

Key labour and income facts

No.		Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
Labour income								
32	Labour income in current dollars	\$ million	1990	368.6	5.0	1.1	9.2	7.2
			1991	379.0	5.2	1.2	9.4	7.5
	Change	%		2.8	3.2	2.5	2.2	4.0
33	Labour income per employee in current dollars	\$	1990	33,600	28,300	24,900	27,800	28,500
			1991	35,200	30,200	26,800	29,100	30,000
	Change	%		5.0	6.6	7.4	4.9	5.3
34	Labour income per employee in 1986 dollars	\$	1990	28,100	24,900	21,300	23,600	24,400
			1991	27,900	25,000	21,300	23,400	24,200
	Change	%		-0.6	0.4	-0.1	-1.1	-1.1
35	Net income from self-employment as a proportion of money income	%	1989	5.8	3.9	9.1	5.9	4.2
			1990	5.2	3.6	7.6	5.4	4.9
Earnings of full-time, full-year workers								
36	Average earnings of men working full time, full year	\$	1989	35,100	30,600	25,900	31,900	31,200
			1990	36,900	30,000	27,100	33,200	32,500
	Change	%		5.0	-1.9	4.6	4.1	4.2
37	Average earnings of women working full time, full year	\$	1989	23,100	21,700	19,800	21,100	19,400
			1990	24,900	21,900	21,700	24,000	21,400
	Change	%		7.9	1.1	9.4	13.5	10.3
38	Ratio of female-to-male earnings	%	1989	65.8	70.8	76.2	66.2	62.3
			1990	67.6	73.0	80.0	72.1	65.8
Family income								
39	Average family income	\$	1989	50,100	39,600	38,700	43,100	40,700
			1990	51,600	40,800	39,700	44,400	42,400
40	Median family income	\$	1989	44,500	35,700	34,500	37,600	36,300
			1990	46,100	35,300	34,900	39,900	38,100
41	Average income of unattached individuals	\$	1989	21,100	19,000	14,400	17,700	17,200
			1990	22,600	19,200	17,700	20,000	18,400
42	Median income of unattached individuals	\$	1989	16,600	14,700	11,700	12,400	13,000
			1990	17,500	13,500	13,600	16,500	13,900
43	Average family taxes	\$	1989	9,600	6,200	5,900	7,400	6,600
			1990	10,200	6,500	6,000	7,900	7,200
44	Average family income after tax	\$	1989	40,400	33,500	32,800	35,700	34,000
			1990	41,400	34,300	33,700	36,500	35,200

See Notes and definitions at end of table.

Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
86.1	158.0	12.1	9.3	34.8	43.7	0.5	1.1	1990	\$ million	32
88.1	160.5	12.3	9.6	36.9	46.2	0.5	1.2	1991		
2.3	1.6	1.6	3.4	6.1	5.8	5.5	4.9			
31,800	36,200	28,500	27,300	33,000	34,200	1990	\$	33
33,500	38,000	29,900	28,100	34,700	35,800	..	..	1991
5.4	5.1	4.8	2.7	5.1	4.6	..	..	
27,000	29,600	24,000	22,900	28,000	29,100	1990	\$	34
26,500	29,800	23,900	22,300	27,800	29,900	..	..	1991
-1.9	0.4	-0.3	-2.4	-0.7	-0.7	..	..	
4.4	6.4	5.7	10.8	5.6	5.9	1989	%	35
4.5	5.4	5.3	8.7	5.9	4.9	..	..	1990
34,000	37,400	31,600	27,900	34,400	35,600	1989	\$	36
35,500	39,300	30,900	28,300	36,000	39,700	..	..	1990
4.5	5.1	-2.3	1.3	4.6	11.4	..	..	
21,200	25,200	20,700	20,400	22,800	22,600	1989	\$	37
24,400	25,900	22,400	21,300	24,100	26,500	..	..	1990
14.9	2.9	8.2	4.5	5.8	17.2	..	..	
62.4	67.4	65.6	72.9	66.3	63.6	1989	%	38
68.5	66.0	72.5	75.4	67.0	66.8	..	..	1990
44,900	57,300	46,600	43,000	49,700	49,400	1989	\$	39
47,200	57,000	47,200	44,200	52,000	54,400	..	..	1990
40,200	50,500	41,300	38,100	44,900	46,000	1989	\$	40
42,000	50,900	42,900	38,400	47,200	49,200	..	..	1990
18,300	24,100	19,200	18,700	20,900	22,300	1989	\$	41
20,300	24,800	20,200	19,800	23,800	23,900	..	..	1990
13,700	20,400	14,900	14,100	16,600	18,600	1989	\$	42
14,500	19,800	15,800	15,300	19,200	19,000	..	..	1990
8,900	11,400	8,600	7,700	9,200	9,300	1989	\$	43
9,600	11,500	8,500	8,100	9,900	10,900	..	..	1990
36,000	45,900	38,000	35,300	40,500	40,100	1989	\$	44
37,500	45,500	38,700	36,100	42,100	43,600	..	..	1990

See Notes and definitions at end of table.

Key labour and income facts

No.		Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
45	Proportion below the low income cut-off (1986 base):							
	- families	%	1989 1990	11.1 12.1	12.9 14.3	9.9 10.2	12.7 12.0	12.3 12.7
	- unattached individuals	%	1989 1990	34.4 34.1	34.9 38.9	37.1 31.9	38.1 27.6	38.3 34.6
	- persons (population)	%	1989 1990	13.6 14.6	14.3 15.6	12.2 12.5	14.4 13.4	13.9 14.3
	- children (less than 16 years)	%	1989 1990	15.0 17.4	17.9 19.9	13.9 13.9	16.3 16.8	16.7 17.4
	- elderly (65 years and over)	%	1989 1990	21.4 19.3	16.3 16.2	16.7 16.2	18.6 13.0	14.8 13.9
Households and dwellings								
46	Estimated number of households and dwellings	'000	1990 1991	9,624 9,873	173 177	45 47	318 326	247 251
47	Average household income	\$	1989 1990	43,800 45,300	37,500 38,400	34,300 35,000	37,700 39,800	36,800 38,200
48	Proportion of households with:							
	- VCRs	%	1990 1991	66.3 68.6	67.6 67.8	62.2 59.6	66.7 67.8	64.0 66.5
	- microwaves	%	1990 1991	68.2 73.5	56.6 65.0	57.8 63.8	67.9 72.4	66.8 72.5
	- two or more automobiles	%	1990 1991	24.7 25.1	16.2 13.6	26.7 21.3	19.8 20.2	21.5 20.3
	- vans and trucks	%	1990 1991	23.4 22.2	32.4 34.5	31.1 31.9	23.9 25.8	31.6 30.3
	- air conditioners	%	1990 1991	24.4 26.7	-- --	-- --	3.5 3.7	5.7 6.4
49	Proportion of owner-occupied dwellings	%	1990 1991	63.7 63.7	79.2 78.5	71.1 70.2	72.0 71.8	75.3 76.5
50	Proportion of all owner-occupied dwellings that are mortgage free	%	1990 1991	51.1 51.3	70.8 71.2	59.4 60.6	57.6 56.8	58.1 56.2
51	Dwellings in need of repair as a proportion of all occupied dwellings	%	1990 1991	26.6 24.5	31.3 30.5	37.7 27.7	35.2 31.9	32.8 34.7
52	Median rent-to-income ratio	%	1990 1991	20 21	17 16	25 23	23 21	19 20

See Notes and definitions at end of table.

Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
45										
13.0	8.1	13.4	12.7	12.9	12.3	..	..	1989	%	
14.5	9.8	14.4	14.0	12.9	11.9	..	..	1990	%	
44.2	28.4	36.4	32.8	34.8	28.4	..	..	1989	%	
44.0	28.5	35.7	29.3	32.6	31.0	..	..	1990	%	
16.7	10.1	16.9	16.0	15.5	13.8	..	..	1989	%	
18.0	11.7	17.8	16.6	15.4	14.6	..	..	1990	%	
16.5	11.4	22.5	20.7	17.7	14.4	..	..	1989	%	
18.1	15.3	22.8	20.7	19.1	17.4	..	..	1990	%	
35.9	14.8	20.7	13.3	20.6	20.5	..	..	1989	%	
28.8	15.8	19.8	10.0	19.2	18.0	..	..	1990	%	
2,533	3,479	388	358	869	1,214	..	..	1990	'000	46
2,618	3,585	389	359	898	1,225	..	..	1991	'000	
39,200	50,600	40,000	37,100	43,800	41,800	..	..	1989	\$	47
40,500	50,600	40,500	38,200	46,200	47,100	..	..	1990	\$	
48										
63.2	69.0	63.1	60.6	71.6	64.0	..	..	1990	%	
64.9	71.0	66.3	64.3	72.6	68.8	..	..	1991	%	
65.5	68.2	68.3	74.9	76.9	68.3	..	..	1990	%	
70.6	73.8	75.1	78.6	80.2	74.0	..	..	1991	%	
21.6	26.5	22.2	25.1	29.7	26.7	..	..	1990	%	
21.4	27.4	26.0	23.1	28.8	27.5	..	..	1991	%	
13.8	20.5	29.1	37.2	37.7	32.3	..	..	1990	%	
12.8	18.2	27.0	40.9	38.3	30.7	..	..	1991	%	
13.3	44.9	43.8	32.1	6.9	6.1	..	..	1990	%	
15.2	48.0	45.0	32.3	10.1	8.5	..	..	1991	%	
55.2	65.6	67.8	70.7	65.8	64.2	..	..	1990	%	49
56.8	64.1	68.4	72.4	64.4	65.1	..	..	1991	%	
46.5	50.6	56.3	58.9	47.2	52.0	..	..	1990	%	50
47.5	50.2	55.3	63.1	48.8	52.0	..	..	1991	%	
24.2	26.2	28.9	31.3	30.0	23.9	..	..	1990	%	51
21.1	24.0	29.6	25.9	28.2	23.0	..	..	1991	%	
19	20	20	21	20	23	..	..	1990	%	52
20	22	21	22	21	24	..	..	1991	%	

See Notes and definitions at end of table.

Key labour and income facts

No.	Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
53 Labour force income profile							
Number of taxfilers	'000	1990	18,450	372	86	606	496
Income:							
Number reporting	'000	1990	18,407	371	86	604	495
Amount	\$ million	1990	454,628	6,897	1,662	12,939	9,904
Median	\$	1990	19,100	13,800	15,400	16,500	15,300
Canadian index	%	1990	100.0	72.3	80.6	86.4	80.1
Labour force income:							
Number reporting	'000	1990	14,255	292	68	455	372
Amount	\$ million	1990	348,535	5,577	1,267	9,830	7,590
Employment income:							
Number reporting	'000	1990	14,028	279	67	445	363
Amount	\$ million	1990	336,320	4,769	1,122	9,236	6,944
Median	\$	1990	19,300	10,700	11,800	16,300	14,300
Canadian index	%	1990	100.0	55.4	61.1	84.5	74.1
Self-employment income:							
Number reporting	'000	1990	1,874	31	12	52	35
Amount	\$ million	1990	20,724	238	104	660	344
Unemployment Insurance benefits:							
Number reporting	'000	1990	3,044	144	28	134	131
Amount	\$ million	1990	12,215	809	145	594	646
Canadian index	%	1990	100.0	467.2	355.4	177.1	256.5
54 Economic dependency profile							
Transfer payments:							
Amount	\$ million	1990	68,543	1,758	397	2,572	2,176
Employment income	\$ million	1990	336,320	4,769	1,122	9,236	6,944
Economic dependency ratio (EDR)	%	1990	20.38	36.87	35.41	27.85	31.34
Canadian index	%	1990	100.0	180.9	173.7	136.7	153.8
Unemployment Insurance benefits:							
Amount	\$ million	1990	12,215	809	145	594	646
Contribution to EDR	%	1990	3.63	16.96	12.90	6.43	9.31
Family Allowance benefits:							
Amount	\$ million	1990	2,577	63	14	87	74
Contribution to EDR	%	1990	0.77	1.32	1.22	0.94	1.06
Federal sales tax credits:							
Amount	\$ million	1990	1,708	47	9	64	56
Contribution to EDR	%	1990	0.51	0.98	0.85	0.69	0.81
Child Tax Credit benefits:							
Amount	\$ million	1990	2,128	65	14	80	72
Contribution to EDR	%	1990	0.63	1.37	1.26	0.86	1.04
Old Age Security benefits:							
Amount	\$ million	1990	9,921	166	50	343	269
Contribution to EDR	%	1990	2.95	3.47	4.48	3.72	3.88
CPP/QPP benefits:							
Amount	\$ million	1990	12,008	176	49	435	306
Contribution to EDR	%	1990	3.57	3.70	4.41	4.71	4.41
Other pension benefits:							
Amount	\$ million	1990	16,164	203	60	590	386
Contribution to EDR	%	1990	4.81	4.25	5.34	6.39	5.55

See Notes and definitions at end of table.

Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
										53
4,693	6,888	757	642	1,660	2,202	18	30	1990	'000	
4,681	6,873	756	640	1,656	2,198	18	30	1990	'000	
104,854	187,842	16,321	13,574	42,208	57,057	479	889	1990	\$ million	
17,400	21,400	16,800	16,300	19,500	20,000	22,800	21,600	1990	\$	
91.1	112.0	88.0	85.3	102.1	104.7	119.4	113.1	1990	%	
3,517	5,409	559	490	1,364	1,686	16	27	1990	'000	
81,426	144,240	11,878	9,602	33,255	42,637	426	807	1990	\$ million	
3,444	5,350	549	484	1,347	1,658	15	27	1990	'000	
77,460	141,121	11,515	9,315	32,440	41,208	404	785	1990	\$ million	
18,500	21,500	16,800	14,600	19,100	20,000	22,200	23,400	1990	\$	
95.9	111.4	87.0	75.6	99.0	103.6	115.0	121.2	1990	%	
340	675	101	137	239	248	2	2	1990	'000	
4,258	8,585	824	985	1,830	2,864	17	15	1990	\$ million	
942	889	103	82	221	360	4	5	1990	'000	
3,966	3,119	363	286	815	1,429	21	23	1990	\$ million	
141.0	60.9	86.8	84.6	69.1	95.6	146.6	80.2	1990	%	
										54
17,488	25,075	2,979	2,401	5,003	8,576	46	71	1990	\$ million	
77,460	141,121	11,515	9,315	32,440	41,208	404	785	1990	\$ million	
22.58	17.77	25.87	25.77	15.42	20.81	11.32	9.10	1990	%	
110.8	87.2	126.9	126.4	75.7	102.1	55.5	44.7	1990	%	
3,966	3,119	363	286	815	1,429	21	23	1990	\$ million	
5.12	2.21	3.15	3.07	2.51	3.47	5.32	2.91	1990	%	
633	913	111	110	267	295	3	8	1990	\$ million	
0.82	0.65	0.97	1.18	0.82	0.72	0.71	0.99	1990	%	
467	552	85	76	155	193	1	3	1990	\$ million	
0.60	0.39	0.74	0.81	0.48	0.47	0.35	0.37	1990	%	
555	647	111	116	226	232	2	8	1990	\$ million	
0.72	0.46	0.96	1.25	0.70	0.56	0.55	0.98	1990	%	
2,411	3,711	506	445	707	1,306	3	4	1990	\$ million	
3.11	2.63	4.40	4.78	2.18	3.17	0.72	0.54	1990	%	
2,835	4,824	523	454	849	1,549	4	4	1990	\$ million	
3.66	3.42	4.54	4.87	2.62	3.76	1.08	0.48	1990	%	
3,274	6,877	645	529	1,205	2,383	7	5	1990	\$ million	
4.23	4.87	5.60	5.68	3.72	5.78	1.63	0.67	1990	%	

See Notes and definitions at end of table.

Key labour and income facts

Notes and definitions

No.

- 1 Persons aged 15 and over who are employed or unemployed.
- 2 Labour force as a proportion of the population aged 15 and over.
- 4 Persons who usually work less than 30 hours per week.
- 7 Unemployed as a proportion of the labour force.
- 8 This rate, and rates shown as Indicators 9 and 10, are described in *The labour force* (Monthly, Catalogue 71-001), February 1987.
- 9 The full-time labour force includes persons working full time, those working part time involuntarily and unemployed persons seeking full-time work.

The part-time labour force includes persons working part time voluntarily and unemployed persons seeking part-time work.

On the margins of the labour force includes persons not looking for work because they believe none is available or because they are waiting for recall or for replies from employers.

- 10 The rate shows hours lost through unemployment (unemployed multiplied by average actual weekly hours) and through underemployment (that is, short-time work schedules and involuntary part-time employment) as a proportion of hours worked plus hours lost.

No.

- 29 Data are for agreements involving bargaining units of 500 or more employees. Canada figures include workers covered by federal labour legislation plus agreements involving workers in more than one province.
- 32 Labour income comprises gross wages and salaries (including directors' fees, bonuses, commissions, gratuities, taxable allowances and retroactive pay) and supplementary labour income (payments made by employers for the benefit of employees, including contributions to health and welfare schemes, pension plans, Workers' Compensation and Unemployment Insurance).
- 33 Labour income per employee is calculated using LFS estimates of paid workers excluding those absent the entire reference week without pay.
- 45 For an explanation of the methodology underlying the low income cut-offs, see *Income distributions by size in Canada* (Annual, Catalogue 13-207).
- 53-54 Data are derived from tax returns filed in the spring of the year following the reference year. The mailing address at the time of filing determines the province.

In the works

Here are some of the topics to be featured in upcoming issues of Perspectives on labour and income.

■ **Year-end review**

A wrap-up of changes and trends in the labour market in 1992.

■ **Shift work**

Looks at the number and characteristics of shift workers and their reasons for working non-standard hours.

■ **Productivity**

A study on how Canadian productivity is measured and the factors affecting it.

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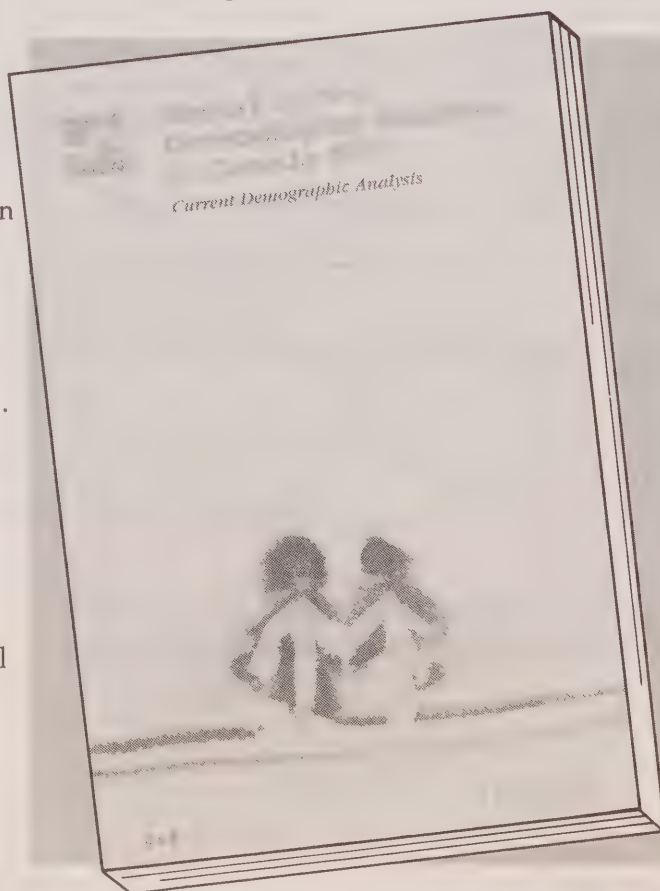
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